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Architecture of Sydney.

IN an article on the architecture of Sydney, which appeared a few months since,* we mentioned that there were a number of new buildings deserving of notice in addition to those we criticised, and promised to deal with them later on. One of the works specially noticed was the heightening of the Post Office and the difficulties of style in connexion therewith. A more satisfactory example is the Custom House, originally a plain, simple Italian building of three stories with projecting wings, recessed centre, and a loggia with granite columns on the ground floor, filling up the recess. In its original form it was an unobtrusive, but satisfactory building, though in comparison with the huge wool stores of Messrs. Goldsborough, Mort, & Co. on the left, and with Harrison, Jones, & Devlin's on the right, it was quite insignificant. The imposition of an income-tax and a land-tax a few years since, and the simultaneous reduction of duties, caused the transference of staff from the Customs to the Direct Taxation Department, and one of the arguments put forward to gild the pill of direct taxation was the frequently repeated statement that the cost of collection would be less. It has, however, proved to be infinitely more, so much so that a very considerable enlargement of the Custom House became necessary, hence the recent alterations. These consist of the addition of two stories to the original building and of an Ionic colonnade of granite columns over the pre-existing Doric colonnade on the ground floor. Broadly and generally, the whole work is harmonious in itself, and the building now fairly holds its own with the wool stores on either hand. It is mainly erected in the golden brown sandstone for which Sydney is famous, and forms a pleasing object from the Circular Quay, the central landing-place for passengers from most of the ferries and some of the mail steamers serving the city. There are, however, one or two points in the design open to criticism, and as our articles are intended to assist in the development of good architecture, we do not hesitate to point them out. The most noticeable is the very high panelled parapet to the wings, apparently equal in height to the attic story itself, in which also a panel treatment has been adopted. This equality of division and similarity of treatment is not pleasing (although each portion is in itself well designed), for it gives a generally top-heavy appearance to the wings, and the effect is still further intensified by the square dome-like terminals of the angle piers, from each of which rises a short flagstaff. If, instead of the square-domed terminals, some lighter treatment in metal or wood had been adopted as a support to the base of the flagstaff, the same general outline could have been obtained, but with a much more satisfactory result; in fact, the treatment should have formed a base to the flagstaff instead of a terminal to the stonework. The parapet to the recessed central portion consists of a turned balustrade of the usual type and of moderate height. If this had been carried round the wings instead of the high and heavy solid parapet, the effect would, we think, have been much more pleasing. Another slight defect is to be found in the cornice of the attic story, which is somewhat too pronounced in comparison with the main cornice immediately below it; and a very weak effect is given to the range of windows in the central division under the main cornice by flat corbelled pilaster strips between the windows. They would have been much better omitted, especially as there are two colonnaded loggias with strongly marked vertical lines just below them, and the contrast of horizontal treatment is exactly what was needed to give additional force to the colonnades. There is, however, one feature which calls for special praise, and that is the enclosure of the clock, which occupies a central position in place of one of the windows. It is surrounded by a simple architectural framework almost square in outline, but with well-modelled dolphins as supporters to the circle, with tridents on each side to fill up the space left vacant by the curve of the body. This is a little bit of boldly and artistically treated work which gives genuine pleasure.

Passing up Pitt-street, we reach another building which has just been doubled in height, namely, the Merchants' Exchange. Originally, no doubt, it was an imposing building, but the growth of the city all round, and especially the erection of the huge Lands Office on one side, has left it secondary and insignificant. The original treatment consisted of a building of two stories on a fairly high base. The side elevations have slightly-projecting Corinthian pilasters, and five bays of the front are treated with three-quarter columns, with an entablature of good proportion all round. To add two more stories to such a building and make an architectural success is a task which requires some ability, and this, unfortunately, has not been displayed. The addition is practically a repetition of the two lower stories on a somewhat smaller scale, and with very poor and commonplace detail. The pilasters are thin and meagre, with exaggerated and nondescript caps and high bases. There is also too much cutting up of the surface between the pilasters by strings and bands. Windows with semicircular heads and square heads are also employed in the same range, the impost moulding to the former running through and cutting into the architraves of the square-headed windows—a most objectionable treatment, which makes the square-headed windows look very top-heavy. The three-quarter columns on the lower story are not carried up, but, nevertheless, a large and unmeaning pediment is superposed over three bays of the flat-looking pilasters previously referred to. It is a great pity that a building of such importance and in so good a position, with its three street frontages, should not have been

* See *Builder* of October 13, 1900.

more artistically treated; indeed, the building in its original condition was a much more satisfactory architectural composition, simple and unpretentious as it was, than it is now in its altered guise.

Away to the left up Bridge-street, at the corner where it joins Macquarie-street, is the Treasury, another old and commonplace building which has recently been enlarged by the Government Architect. This also presents a difficult problem, as it was apparently necessary to carry out the original commonplace design. It is a conspicuous example how a difficult problem may be met by genuine architectural skill, and an unpromising subject so manœuvred that the eye is caught and held by an exceedingly well-designed feature to which the commonplace main lines of the building act as a foil. This feature consists of a projection of two stories thrown out from the front of the building right up to the pavement line. The upper half consists of a portico of three bays of coupled columns, those at the angles being square; they are of unpolished granite with bronze caps and bases, and are surmounted by a well-designed pediment. In this portion of the design the only points to criticise are the caps of the columns, which are somewhat too deep and heavy, and the acroteria which, though well carved, are too large, and, indeed, would have been better omitted altogether. The lower half of the projection forms a high base or podium, and on the face fronting the street is relieved by a semicircular arched opening of bold design, filled in with columns supporting the ground floor landing and a balcony wall wholly covered with carving of very fine design and good execution. The opening is treated in this fashion because the ground floor of the building is considerably elevated above the street, and approach thereto is obtained by well-designed flights of steps on either side. They are unequal in height, as the street has a steep slope, but being subordinate to the main central feature the discrepancy is scarcely noticed. The openings between the small columns in the arch just referred to give light to the basement story, and are filled in with some really excellent ironwork. Taken altogether the composition is one of the best bits of work the Government Architect has given us in recent years, excellent as most of his work is.

Returning to the heart of the city through the region of the clubs and hotels, we pass Dalgety's offices and those of the Australian Mortgage Company, which we criticised in our last article. Adjoining the latter a very ornate building in brick and stone has just been completed for the Jockey Club. The brick is tuck-pointed, the stonework is freely carved, and as much feature as a 30 ft. front could well contain has been lavished on this building. The general idea is not bad, namely, a wide central and narrow side bays subdivided by semi-octagonal projections. On the ground floor at one side is the entrance, and at the other a passage way to the rear; an elliptical-headed window is placed between, over this is a well-marked square bay window with round corners, and above it on the second story a horseshoe arched opening with a rather heavy stone arch. Ordinary windows fill up the space in the side bays, and the parapet is cut up to give as much variety of outline as possible. The whole design shows effort and the effect is overdone. It would almost appear as if the client said to the architect, "give us a good handsome front and don't hesitate about the expense." They have got it and it is to be hoped they are satisfied, but from the point of view of the artistic critic this is not the type of building one would care to see repeated, although, unfortunately, there are far too many attempts of the kind in the city. The building has, however, had one good effect, namely, that the somewhat bold stone building of the Mortgage Company adjoining has been greatly improved by the contrast, for its simple lines and the reticence of its design are accentuated, and its front has taken on an air of solidity and respectability which were not previously so noticeable, and should be gratifying not only to its architect but to its owner, as typifying the stability of their institution.

Making our way to the heart of the city, and leaving the General Post Office to the left, one of the most artistic of the warehouses of Sydney—that of Messrs. Paterson, Laing, & Bruce—has recently been added to and enlarged. The original design was very simple in its lines and boldly treated, as befitted a warehouse. It has a basement of rusticated stone with red brick for the walling over; there is no attempt at a cornice, but the original upper story is treated with a range of small windows divided by stumpy and bulbous polished granite columns, and the only projecting feature is a stone hood to the entrance. One cannot label the building as belonging to any special style of design; but, if anything, it is permeated by a slight feeling for the Romanesque. To this satisfactory front an upper story has recently been added, and here again the difficulties of such an addition are apparent. The original design was complete in itself, and it is hard to imagine any treatment that would not have detracted from the composition; as it is, it cannot be said that the upper story with its large semicircular arches is satisfactory. The extension on the Wynyard-square side is merely a repetition of the previous treatment and hence presents no difficulty; but the architect, Mr. Jeafferson Jackson, is certainly to be complimented on the artistic way in which he has incorporated the water tanks necessary for the supply of an installation of sprinklers throughout the interior. This takes the form of a small square tower with a tiled roof, and the perky way in which it stands up above the surrounding buildings is distinctly pleasing as well as amusing.

Passing along York-street, devoted to soft goods (*Anglice*, "Manchester") warehouses, one or two new ones are worthy of notice. The most elaborate is a block on the site of the old Skating Rink, and now being erected for a Melbourne capitalist. It is still incomplete, as one or two stories have yet to be added, but the fronts so far show an ample provision for light, which is one of the chief essentials for buildings of this class. The detail is Italian of somewhat ordinary character, very much moulded and carved, and we should imagine very much too fine in detail for the class of building intended, but it is hardly fair to criticise these buildings in their present incomplete condition. On the opposite side of the way is a very simple brick and stone warehouse for Messrs. Inglis & Co., which has a distinctly warehouse look about it, and is yet artistic at the same time. It is six stories in height, and is divided by strings or cornices into three separate portions of two stories each. The chief defect is the equal division of the front, but this is somewhat neutralised by the two upper groups approximating in design, while the lower group is differentiated by the use of dark bricks with stone dressings to the windows. On the ground floor they consist of wide openings with strong segmental arches and pairs of windows over, all the arrises being rounded. In the middle division red bricks are adopted with a few dark brick bands, and windows of ordinary size are spanned by segmental arches. In the upper group the centre is recessed 9 in., and red bricks only are employed. The general effect is fairly satisfactory, though for a warehouse of its type a somewhat bolder treatment of the window spaces would, we think, have been preferable. Adjoining is a long range of red brick stores for Lassetter & Co., in which a bolder treatment has been adopted, but it is unfortunately bald, mere utility evidently being the aim, so that the architect had probably no scope.

In this quarter of the city several other warehouses have recently been erected, but none of them call for any particular notice except one in Sussex-street occupied by Messrs. Yates & Co., the seed merchants, which in our opinion is far away the most artistic in the city. It has been built two or three years, and being in a very dirty quarter is already much discoloured. The frontage is a comparatively narrow one, and a large amount of light is essential, as the building is deep. This has been obtained by carrying up an arched recess nearly the whole height of the building, filled with windows, whilst solidity of effect is secured by the broad solid pier at the side, in which are single windows. The frieze-like treatment of the upper story binds the whole composition together, and the parapet of bricks in a diaper pattern carries out the general surface treatment of the front. The most noticeable feature of the latter is, however, the bands of light greenish grey tiles let into the brickwork, giving a distinctive character to the building. A further point for commendation is the honest treatment of the steel girders which carry the floors on the different stories over the windows, as they are boldly shown, and the bolts treated with ornamental washers. The whole of the upper part of the building is thoroughly satisfactory, but when we come to the ground story the composition is ruined by the hideously ugly wooden verandah, which a paternal City Council forces on every citizen who wants to make use of the footpath for the purpose of sheltering a shop window. This subject of street verandahs is a very difficult one. At one time any one could put up a design to suit his own building so long as it met with the approval of the City Architect. The majority under these circumstances were, of course, as cheap and commonplace as they could well be, but, on the other hand, some really good and well-designed verandahs were erected. For some years, however, the City Council has insisted on a settled design being followed, and being official it is necessarily common-place, and has to be

applied indiscriminately to all kinds of buildings. It is to be hoped that the new City Council will repeal this obnoxious by-law, and, while insisting on stability, will allow the architects of the city a free hand.

During the last two or three years quite a feature in city building is the large number of hotels which have been re-erected, owing to the vigilance of the Licensing Authorities. Most of these are of commonplace character, but in some of them, while a simple design has been adopted, a certain amount of artistic effect has been secured by the disposition of the windows and the use of grey and red bricks in different portions of the front. Two occur to us at the moment, namely, at Church Hill and Oxford streets, in which not only simplicity, but fair treatment have been combined. No doubt there are many others worthy of notice. One, however, of very marked and original character is to be seen opposite the Town Hall, and, together with a row of six shops adjoining, forms a group embodying several novel characteristics. The buildings are only three stories in height, one of which, the ground story, is completely hidden by one of the obnoxious City Council verandahs, though some little attempt appears to have been made in the columns to improve the design. The shop block is treated with recessed arches the height of the two stories, containing windows the full width divided by stone mullions. The large tympana over the upper range of windows and the wall space between the upper and lower windows have been covered with majolica tiling. This is the first example we have noticed of the bold use of coloured tiles on the exterior of a building in Sydney, and the effect would have been very satisfactory if the colours of the lower band had been more harmonious with the tiles in the tympana. They are said to be the work of a celebrated London firm of potters. The hotel at the corner, instead of recessed arches, has projecting mullioned bay windows, but the wall spaces above and below are treated with well-modelled shields and other ornamental features in relief. A high parapet crowns the whole composition, and the division between the properties is only accentuated by short terminals.

To make up for the activity of the brewers the Church has not been idle, for the fine Roman Catholic Cathedral has during the last year or two been advanced one stage further towards its final completion. The recent work has consisted of the completion of the transepts, the pinnacled central tower, and of two bays of the nave, which, together with the completed choir, give the observer a fairly good general idea of what the building will eventually be like. The Cathedral possesses the inestimable advantage of a magnificent site, the finest in the city. It is on the highest ridge of ground, and is surrounded on all sides by open spaces, mostly park lands or reserves, so that it has no building to compete with it, and besides possesses the added advantage of trees and foliage as a background. The view from the ecclesiastical south-east, passing out of the gates of the Domain, is really fine, and reminds one rather of an old world edifice with its picturesque surroundings than of one in a new and bustling city in the Southern Hemisphere which, fifty years ago, was but little better than a small country town. The original designs were prepared many years by the late highly-esteemed architect, Mr. W. W. Wardell, and, considering the disabilities of practice in these Colonies, they are a credit to his memory. The detail throughout is good and pure, though lacking the grace which belongs to the work of the acknowledged modern English masters of cathedral architecture, such as Street, Bodley, and Pearson. The general lines of the building, so far as they at present show, are English, as is also most of the detail. The broad and imposing transept, with its three entrances facing Hyde Park, is, however, rather Continental, and forms now, as it also probably will in the future, the principal entrance to the building. Adjoining this transept on the left is a chapel of two bays projecting beyond the choir aisle, but with no visible roof, a feature that is decidedly wanted to harmonise with the rest of the design. We understand that when the building is completed it is to have two western towers and spires, and that the nave will only be six bays in length, the same as the choir. If this is the case, the present satisfactory proportions will, we fear, be altogether spoiled, and we cannot help thinking that with such a short-naved building as this must be it would be far better to omit the western towers and carry up a central spire instead. Of course, it is a question whether the central tower piers would be strong enough to carry the superincumbent weight; but even if it is impossible to build a stone spire on the supports, one of wood covered with copper or lead would be preferable, or even none at all, rather than crowd the design and upset the balance of the composition by introducing unnecessary and undesirable features.

We cannot close this article without referring to the Federal Commemoration recently held in this city, for although the decorations were, of course, only temporary, they were in the main so good and so well thought out, that they deserve more than passing notice. The work was largely in the hands of Mr. Vernon, the Government Architect, who had the advantage of being present at the Jubilee of 1897 in London, and even took part therein as the officer in command of the New South Wales Lancers. The Venetian masts and interlaced festoons of St. James-square were reproduced in Martin's-place, and each street or section of a street was treated as a unit in the general design. Some of the sections were handed over to different nationalities, as the American, French, and German; and in these the national emblems of each predominated. A noticeable feature of the general street decorations was the use made of bright copper shields or discs on the Venetian poles, and also the rich stamped copper bands thereon, which formed the point of junction of flags and bunting. Many arches were also erected, viz., the Coal, Wool, Wheat, French, American, Melbourne, Commonwealth, German, and South Seas arches. The Commonwealth was an imitation of a Roman triumphal arch in fibrous plaster, enriched with paintings by local artists and large bronzed panels. The Melbourne was mostly of greenery and bunting, the American of wood, plaster, greenery, and bunting, and so on. The South Sea arch, by Mr. Vernon, was not an arch, but a pillared structure with a wide central opening and entablature over, and perhaps the most artistic of any. The other arches were mostly the work of local architects. But the most novel feature was the treatment of Queen-square, with its many pillars and festoons, and the best the domed pavilion in the Centennial Park, in which the swearing-in ceremony took place. It is proposed to reproduce it in marble as a permanent memorial. The landing pavilion, a slighter structure on the shores of Farm Cove, was also very effective. But best of all was the street and park illumination at night, which for a week turned a comparatively dull and prosaic city into a fairyland of light and colour, and filled its streets with one of the most pleased and orderly crowds it has ever been our lot to see. Such a display cannot but have a good effect on the people at large, and awaken the latent artistic feeling of the masses to a perception of what Sydney might in some measure be made.

THE LATE MR. J. M. BRYDON.

THE sudden death of Mr. Brydon has been painfully felt in the architectural world of London, where he was known to many personally, as well as to every one by name. It is doubly sad that both the architects for the two great new blocks of Government offices should have died before the actual commencement of their buildings, just when each had attained, and might have hoped to enjoy, one of the greatest prizes of the profession. It seems only the other day that the two successful architects were celebrating their good fortune in a congenial manner by a joint dinner to their professional brethren; and now both are gone, and their work left to be carried out by other hands.

Mr. Brydon's success in his profession was a tolerably rapid one, for it can hardly be said to have commenced before the occasion of the Chelsea Vestry Hall competition in 1885. His design which was accepted on that occasion was evidently the outcome of a very careful study of the details and character of late English Renaissance; we should have been disposed to think that the church of St. Martin-in-the-Fields had largely influenced the design. The style of the building which Mr. Brydon produced on these lines was exactly suited to the *genius loci* of Chelsea, a fact which may have partly led to its selection; but it must have been also remarked that it showed a complete acquaintance with the character of detail of that school of English architecture. Whether this reproduction of the style of a past century is the object to be aimed at in a new building is of course a question—perhaps more than a question; the point to be noted is that Mr. Brydon did it thoroughly well, and established himself from that time as a Classic architect of training and knowledge. The lesson to young architects is that such complete study and comprehension of a special style is what often leads to the first step in professional success; but it must be complete. An architect may choose to strive for success by picturesqueness and originality of treatment, in which correctness of precedent is of no consequence, and so long as his picturesqueness is based on good planning, we should perhaps feel more sympathy with that kind of success than with the success of architecture founded on

precedent. But there is something to be said for precedent, especially when learnedly studied, and in this respect Mr. Brydon's Chelsea Vestry Hall was beyond criticism. He had caught the very spirit of the thing, and not merely some of its salient forms.

Hence it was a most natural and fitting sequel that he should have been employed so largely in erecting new buildings and enlarging and altering old ones at Bath, pre-eminently the home of English eighteenth-century architecture. The selection was generally approved, and the result fully justified it. Mr. Brydon's buildings at Bath are entirely in harmony with the Bath architecture to which Wood had given the tone; and this was a case in which anything other than this would have been entirely out of place. Bath is a city so peculiarly specialised in its architectural unity, largely the result of one man's influence, that it would have been a serious mistake to have obtruded into it prominent public buildings in a style out of harmony with the existing public and street architecture of the city. It was fortunate, therefore, that this work got placed in the hands of the architect who probably, better than any one else in England, understood that particular phase of English Classic.

Mr. Brydon had however carefully studied Italian as well as English Renaissance, and his studies in this field showed their result in his treatment of the Roman bath at Bath, in which he kept as carefully the character of Roman detail. Mr. Brydon was also exceedingly successful, in an artistic sense, in some competition designs in which he was not the selected architect. Among these may be mentioned his design for the West Ham Technical Institute, with its dome based more or less on the Radcliffe, and that for the Edinburgh Municipal Buildings, in which the lofty front towards Prince's-street was treated with much power. Some buildings on a smaller scale are interesting as showing suitable and characteristic treatment of a less ambitious kind; among them the Village Hall at Forest-row, a very pretty piece of rural architecture, and the residential chambers in Chenies-street, which, as a treatment of a plain and unpretending building, is one of the best and most suitable pieces of modern street architecture in London.

Mr. Brydon's design for the great building for the Government offices in Great George-street was, we confess, to some extent a disappointment to us; it has an excellent plan, and a fine feature in the circular internal court, but the general design of the exterior is rather correct than striking or impressive. Perhaps it may be said that this represents the nature of Mr. Brydon's talent as an architect; he was not an architectural genius, but a painstaking student who, if he adopted this or that school of architecture as a model, made himself thoroughly acquainted with it, and could be depended upon to treat it in an adequate manner. It was this conviction as to his thorough knowledge of Classic which no doubt led to the general feeling in his favour, on the part of his professional friends, in connexion with the Government Office Commission. In regard to this we may be excused, under the circumstances, for divulging a little incident which is not properly public property. The Government, as will be remembered, had asked the Institute to recommend eight architects who were especially competent in Classic design, from among whom they would select their architects. There was a ballot in the Council of the Institute for the selection of these names, each member writing down on a piece of paper the names of the eight whom he preferred. When the papers were opened and read, the lists were very various, and Mr. Brydon's name was the only one which was included in all of them. He got on his feet and in a few words, spoken with a good deal of feeling, said that whether he became architect to the Government Offices or not, he should always remember with pride and pleasure the way in which his brethren had voted for him.

Mr. Brydon will be very much missed at the Institute of Architects, where he was an active and energetic member of the Council, taking the greatest interest especially in artistic questions, in regard to which he may be said to have represented enthusiasm guided and tempered by common sense. He made many useful suggestions in discussions on architectural and artistic subjects, and always seemed to see the real point of the matter in hand. In addition to this he was a man generally liked personally, for his pleasant and genial manner, and he leaves a gap in the ranks of the Institute which will not be easily filled.

NOTES.

Liverpool Cathedral.

THE *Liverpool Mercury* of May 28 publishes an interesting and able memorandum drawn up by Mr. George Bradbury, architect, and an ex-President of the Liverpool Architectural Society, on the subject of the three sites now in question for the Liverpool Cathedral, viz.: the site of the present St. Luke's Church; what is called the "Monument" site, in the wide space up London-road, in the centre of which a monument of no great importance now stands; and the St. James's Mount site, adjoining the St. James's cemetery. The St. Luke's site he dismisses because it would be too small for a cathedral without the purchase of six houses near the site; it would be too noisy; and he does not think that public opinion would sanction the destruction of St. Luke's Church. He says, and with this we quite agree, that "as a whole, this church has a fine architectural effect, and on that ground it would be a great pity to have it removed." The other objection which we mentioned—that the cathedral would be only partially seen up Bold-street (the Bond-street of Liverpool), just a corner of it appearing, instead of being central with the street, Mr. Bradbury seems to have overlooked; but it is a very important one in regard to architectural effect. The Monument site he considers also too noisy, an electric tram route running past it, and that property of some value would have to be acquired to extend it sufficiently.

> "With regard to the architectural effect, it could be seen on three sides, and would have a very imposing appearance; but owing to the large amount of very small property with which it would be surrounded, it is doubtful whether the weekday or Sunday services conducted in that district would be largely attended by those who are able to support cathedral services."

In regard to this we may observe that the presence of small houses close to the great cathedrals in France is not considered any bar to their usefulness. Of course, if people want to regard a cathedral merely as a place of fashionable resort, it must be in a fashionable quarter; but that seems a rather vulgar and not very religious view of the matter. The St. James's Mount site is large enough, and presents the advantage of a probable rock foundation not far below the surface; but those who know Liverpool well will probably agree with us that in an architectural sense it is a rather obscure and out-of-the-way site. We are still of opinion that, seeing that Liverpool has let slip the fine site originally proposed near St. George's Hall and the Free Library group, the Monument site, if liberally treated, affords the finest opportunity.

The Antiquities of Knossos.

FROM a long communication by Mr. Arthur Evans to the *Times* of Tuesday, it seems that the discoveries amid the ruins of the palace at Knossos bid fair to be among the most sensational ever made by modern explorers. It appears now probable that the palace at Knossos was a small town in itself, with a considerable population of slaves and artisans. The materials used by the artists in their work have been discovered in some of the rooms unearthed; and a great amphora of a veined marble-like stone was found, with carved reliefs on it, and side by side with it a similar but smaller vase only roughed out. A more remarkable discovery was what Mr. Evans takes to be the royal draughtboard, with a framework of ivory, the surface of the board formed with a kind of mosaic of ivory, partly coated with gold, and with crystal plaques backed with silver and with blue enamel; one end of the board is decorated with medallions, and the whole enclosed in a frame of marguerites in relief, of ivory and crystal. But the most startling discovery, to our thinking, was that of a signet-ring impression showing a creature with a calf's head and hoofs and the legs of a man, seated on a kind of throne. Considering the legend of the Minotaur, this is a most extraordinary discovery, and points at all events to some contemporary belief in such a creature. Mr. Evans states that the extent of the ruins appears to be much greater than was at first supposed; so we do not know what more may yet come to light.

Wireless Telegraphy.

THE paper on "Syntonic Wireless Telegraphy," read by Mr. Marconi to the Society of Arts, was of the greatest interest to electricians, and marks an epoch in the development of space telegraphy. Mr. Marconi has practically abandoned his earlier system of untuned vibrations. The receivers he now uses will only respond to waves of definite wave lengths, and hence in one station we can have several instruments receiving messages from different transmitters at the same time. By this method it would be possible for a ship in a British fleet to signal to any other one without at the same time ringing up the instruments on board all the other ships, as it does at present. Mr. Marconi thinks that the days of untuned telegraphy are numbered. Apparently very little has been done as yet in the direction of guiding Hertzian waves in particular directions. The waves now spread out from the transmitting station in all directions, as light does from a beacon fire on the top of a hill, and hence the energy available in the waves at considerable distances from the source

must be excessively attenuated. Attempts have been made to apply the principle of the heliograph or the telescope to these rays, but the metal reflectors and the sulphur and other lenses used, although they are successful in the laboratory, are very little use for considerable distances. As Dr. Fleming stated, the question of the monopoly of the ether by the General Post Office will soon have to be decided, and perhaps in the future companies will have to register particular frequencies of vibration for their apparatus just as now they have to register telegraph addresses.

The Sanitary Condition of Boston.

A REPORT to the Local Government Board by Dr. S. Monckton Copeman, on the sanitary circumstances and administration of the Borough of Boston, shows that this ancient town is in a very unsatisfactory state in regard to drainage. It appears that the sewage of the more central and oldest part of the town is taken by an ancient sewer called the Barditch, once open, now mostly covered. The whole of the sewage discharged into the Barditch passes from south to north, and is discharged into the river at a point just below the Grand Sluice, whence it has to flow back along the river throughout the whole length of the town, passing in its course all the houses and other buildings on the river bank. The head of water in the river at high tides is utilised for the flushing of a portion of the Barditch, the possibility of obtaining this periodical flushing having apparently been the reason for arranging that the flow of sewage should take place in the reverse direction to that which would appear most desirable. Three systems of sluice gates have been laid down, one at the head of the sewer, protected by a stout iron grating to prevent the entrance of solid floating bodies, a second at a point where the ditch passes close to the Market Place, and a third about 50 yards distant from its outfall.

"I was informed by the Dykereeve that on an average the water in the river was sufficiently high to be turned into the head of the sewer nine times a fortnight, though it would appear that actual flushing of the Barditch is not carried out as frequently as this. The method of performing the operation is to close the Market Place sluice, and open that at the sewer head, by which the upper portion of the sewer, forming roughly about half its length, is more or less filled with the river water. When such an amount of water as is considered sufficient has been admitted, the sluice at the sewer head is closed. The water that has been taken in, together with the contents of the sewer, is of necessity now held up until on the ebb the river has fallen sufficiently to render discharge from the outfall of the Barditch possible. The tide having fallen sufficiently, the two lower sluices are opened, when the lower half of the sewer is flushed out by the discharge of the water which had previously been penned up above the middle sluice. From the description given, it will be seen that for a considerable portion of each twelve hours the contents of the Barditch remain stagnant, and, as during these periods it is nevertheless receiving continuous additions of sewage matter through the contributory drains which join it at frequent points throughout its course, the pressure within it must be considerable at times, more especially as throughout its whole length no provision has been made for ventilation. . . . The smell when the manholes were unsealed was foul, particularly when the sluice at the sewer head was opened."

The other principal drain, the Bargate drain, is of somewhat the same character, with sluice gates, and is said to be extremely offensive in hot weather. According to the Report the great obstacle to amending the condition of this drain is that joint action on the part of both Boston and Skirbeck is necessary if any useful result is to be obtained; but the two have never united in formulating and executing an adequate sewerage scheme.

Insanitary Devonshire.

DR. REECE'S Report to the Local Government Board on the sanitary circumstances of, and administration in the Northam Urban District, Devonshire, tells the common and often repeated story of inadequate scavenging and polluted water. The water supply of the district for the greater part is derived from shallow wells. Some of these are only a few feet deep, mere holes excavated in the shillet; others have dry-steined walls, made of large-sized water-worn pebbles, apparently derived from the beach. For the most part these are to be seen at Appledore. From some wells the water is raised by means of a pump, or occasionally by any improvised arrangement, such as, *e.g.*, an old meat tin lowered by a string. Many of these wells are so placed as to be liable to serious pollution. For instance, in a court at Appeldore, a pebble-steined well was observed a few yards below certain privies and refuse tips.

"At a conference which I had with the then Sanitary Authority of Northam after my inspection in 1894, I urged the necessity of providing an adequate supply of wholesome water for each household in the district. And subsequently from time to time the Board wrote to the Sanitary Authority and their successors, the Urban District Council, inquiring what steps had been taken to provide a water supply for the district. The usual reply to such inquiries was to the effect that the matter was receiving consideration."

In regard to excrement disposal, there are a certain number of water-closets in Appledore. In the better-class houses these are placed inside the dwelling and are usually flushed with water from a rain-water tank, when this supply fails, hand-flushing is resorted to. Many of the houses are unprovided with water-closets or privy accommodation of any kind. Inquiries instituted at such houses revealed the fact that in some cases commodes were kept in the bedrooms, and that the contents of such were emptied on the beach at irregular intervals. In other instances people appear ordinarily to "use the beach," or in the event of the tide being up, or the weather bad, any other spot convenient for the purpose.

St. Andrew-by-the-Wardrobe Church, Queen Victoria-street.

A FACULTY has been granted by the Consistory Court of London, after Dr. Tristram, K.C., Chancellor of the Diocese, had inspected the church and churchyard, for laying out the steep incline of the burial ground on the southern side in terraces, and for lowering the height of the blank wall in order to replace it with a dwarf wall and a light ornamental railing, at an estimated cost of 450*l.*, whereof all (10*l.* excepted) has been raised by the sale of a plot of ground belonging to the parish. The high wall was erected at the construction by the late Metropolitan Board of Works of Queen Victoria-street, which was completed in October, 1871. A portion of the graveyard was taken for the new thoroughfare. The church had been rebuilt upon a confined site at St. Andrew's (formerly Puddle Dock) Hill, after the Great Fire, of red brick with stone dressings, by Wren, and finished in 1692, at a cost of 7,060*l.* 17s. for the united parishes of St. Andrew-by-the-Wardrobe and St. Ann, Blackfriars. The church, originally known as that of St. Andrew-juxta-Baynard's Castle, derived its later style from its proximity to the office and repository of the Master of the King's Wardrobe and store for the Sovereign's robes of state, established in a house built in Blackfriars by Sir John Beauchamp, K.G., a son of Guido, Earl of Warwick, whose heirs had sold the house to Edward III. Shakespeare cites the Wardrobe in his will. A MS. book of accounts preserved in the Harleian collection seems to show that the King occasionally sojourned there, and Richard III. sometimes held his Courts in the Wardrobe. Whilst presenting no very striking architectural features it has a pleasing interior, and the wreaths along the middle line of the panelled ceiling are beautifully carved. The portrait bust on the monument to the Rev. William Romaine (*obiit* 1795) is by John Bacon the elder. The similar pyramidal monument to the Rev. William Goode is by John Bacon the younger.

Black and White Drawings.

TWO artists, Mr. James J. Guthrie and Mr. Andreas D. Carse, have a small exhibition of work held at 4, Bloomsbury-square W.C. We have seen Mr. Guthrie's black and white drawings in illustrated periodicals and it is interesting to see the original drawings of an artist with such strong individuality. The methods of these two artists are somewhat unusual, Mr. Guthrie using Chinese white on black paper and Mr. Carse making a number of little pictures on gesso, either black or coloured and worked with brush and knife. Mr. Carse's scene from "Paradise Lost" is fine drawing, it has the softness of charcoal and the richness of a pen drawing without the hardness of the latter; the method is one that lends itself to atmospheric effects and to a quality of largeness or breadth that gives these little panels a mark of permanency that is most unusual in this class of work. Very different are the designs of the same artist for the decorative treatment of interiors, which, when they miss being common-place, defy the canons of taste and design, proportion and form being forgotten for pretty colours and scraps of design. The best of Mr. Guthrie's drawings are perhaps the pair entitled "Morning Star" and "Morning," and his book plates are interesting in design and drawing, being, as they should be, rather beautiful badges than intricate pictures.

ARCHITECTURE AT THE ROYAL ACADEMY.—III.

CONTINUING the subject of designs which may be included under the class of public buildings or buildings for business purposes, we next come on a fine water-colour drawing showing Messrs. Henman & Cooper's "Royal Victoria Hospital, Belfast" (1,595), unfortunately without a plan, a matter all-important in this class of building. All we can say therefore is that the architects have succeeded in producing a bold effect of grouping with the wards of this hospital, but that is not what a hospital ought to be built for, and it is really absurd that a mere picture like this, of a building for a practical purpose, should be hung at all; it is not illustrating architecture. A triumphal arch, or even a church, may be considered as a piece of architectural grouping only, a hospital ought not to be; and if the subject were rightly understood at the Academy, drawings of either

dwelling-houses, hospitals, or schools, ought to be rejected if unaccompanied by a plan, as they certainly would be at Paris. We have harped on this string over and over again, but it seems useless; the architectural room at the Academy is obviously regarded, both by Academicians and by the majority of exhibitors, as an occasion for producing pretty pictures of buildings, in water-colour or in black and white: and that is not architecture.

Mr. W. Campbell Jones's "Parish Hall, St. Gabriels, Warwick-square" (1,594), is a very meritorious building of a simple and unpretending character. The double entrance doors, separated by a buttress over which is a niche with a statue, form a pretty incident in a building which is otherwise quite plain, but suitable for its purpose and position. Messrs. Briggs & Wolstenholme's "Blackburn Police Court and Sessions House" (1,602) shows no plan; it is a boldly-treated building with pavilions at each end crowned by cupolas, and a recessed wall with an order between. Messrs. Woodhouse & Willoughby also exhibit a perspective view (without plan) for the same building; either one or both of these is of course a competition drawing only, and ought to be so described in the catalogue; it does not seem quite straightforward for architects to exhibit a mere competition design with a title worded as if it were an actual building. This design is a weak and flat treatment of Classic features, which has not much to recommend it. Mr. Coates Carter's exhibit, No. 1,605, is honestly labelled "Design for a Public Building in a Hot Climate"; it has a good deal of merit; its special character lies mainly in the fact that the actual walls are entirely screened by an open arcade in the ground story and a columned loggia in the upper story; there is a certain appropriate suggestion of Oriental character in the detail, and the general effect is picturesque; but here again, no plan. Mr. Mountford's "New Premises in Cowcross-street" (1,610) is essentially a piece of street architecture—a treatment of a front wall, and therefore does not so much require a plan. As street architecture it is effective, but the pedimented windows in the first-floor story are surely rather heavy in mouldings and detail. The upper story is treated with small square windows with sculpture between, the whole forming a kind of frieze.

Messrs. Silcock & Reay's "British School, Trowbridge, Wilts" (1,614) shows a plan—hung too high to be well seen—and a boldly-treated brick building with stone dressings, with a small stone cupola forming a sky-line feature at each end of the façade; these may do to hang bells in, at all events there is that excuse for them. The large hall forms the central block, with a rather low-pitched roof over it; the classrooms, with their large windows, form a feature at the sides; the whole grouping grows out of the plan, and the character of the architecture is in keeping with the purpose of the building. Messrs. Pite & Balfour's premiated design (third premiated, more correctly) for the "Cartwright Memorial Hall" (1,618) is a severe Classic elevation drawn in very thick black lines; circular-headed windows between coupled columns on the ground story, an expanse of unbroken masonry above (where the picture gallery would come we presume); this is a broad and effective treatment arising out of the nature of the building: no plan. Mr. Ponting's "New Town Hall, Marlborough" (1,618: no plan), is on the type of the old-fashioned rectangular building doing duty as a town hall in so many small towns; it is mainly a red brick building with the upper portion of the walls treated in white cemented or plastered panels, and large mullioned windows. A stone *fronton* with a large balcony on massive cantilevers forms a feature at the entrance end; this portion is rather wanting in simplicity and does not harmonise with the rest. Mr. Tiltman's "Eastern District Hospital, Glasgow" (1,626), is shown in a drawing by Mr. Raffles Dawson, with a block-plan added; it is in a rather peculiar style, the first-floor windows being partially Gothic in character, but with the small cornice characteristic of eighteenth-century buildings inserted both over the window and over the centre transom; there are largely boldly-spaced round arched windows in the ground story, while in the second-floor story there is a more Classic treatment with pilasters which spring from corbels under the string-course level; this portion is rather out of keeping with the rest; too much emphasised in comparison with the plain nearly flat treatment of the lower portion.

There has been a good deal of discussion lately at Southampton as to what is to be done with the old Bargate, which as things are at present certainly merits its name as being a bar to traffic, for all the wheeled traffic at present has to pass under the not very wide central arch of the gate. Some vandals in Southampton have even wished to pull it down; but we hope nothing so stupid will be done. Mr. R. M. D. Lucas, an architect practising in Southampton, exhibits his scheme (1,635) for reconciling the demands of traffic with the preservation of the gate. He shows both plan and elevations. The central archway is reserved for tramway traffic; the present side arches are for other wheeled traffic, and, as we make out from the plan and elevations, two new arches are proposed for foot traffic, partly through existing property adjoining the arch, and which are to be treated in a manner to harmonise with the ancient structure. The scheme seems a good one, and ought to have attention.

Mr. E. P. Warren's "Bedales School, Petersfield" (1,632) is shown in a rather roughly-drawn pencil perspective, with a small plan in the corner. It is a quadrangle plan—the most picturesque but not the most healthy plan for a school, with a cloister round two sides of the quad; the architecture is, evidently with purpose, the simplest possible, with rectangular windows with small panes; a large oriel, which appropriately marks the end of the hall, is the only feature that can be called architectural in the usual sense of the word. The general effect is that of a simple, quiet and home-like school. A large and important drawing is that exhibited by Mr. Clyde Young of the John-street front of the Glasgow Municipal Buildings (1,638); it does not represent any new work, but is only a new view, and is a very fine drawing giving the greatest possible effect to one portion of that solid and dignified Classic structure on which the late Mr. Young's reputation was mainly founded. Mr. Gibson's "Walsall Town Hall" (1,639) was illustrated in our issue of October 13, 1900, to which we may refer the reader. A small and not very conspicuous elevation and plan of a "New Bank at Leicester" (1,650), by Messrs. Everard & Pick, shows a good and bold Classic design, with pavilions crowned with gracefully-designed cupolas at each side of the façade, the lower part of these pavilions or towers treated in almost plain rusticated masonry. Between them, on the upper stage of the design, is an order in coupled columns. The large banking-room fills the whole central area of the plan, with (apparently) a domed ceiling, which however is not treated as a dome externally. There is a boldness and simplicity of conception about this design which is very pleasing; it is of more architectural importance than some much more showy drawings.

Mr. Keen's "Baptist Church House, Southampton-row" (1,658), has a generally picturesque effect, but is somewhat confused in treatment, it wants simplifying and pulling together; the treatment of the angle is the best feature in it; the employment of a strongly-marked rustification in the upper portion of the design, against plain surfaces in the lower portion, seems rather an inversion of the proper order of things.

Mr. J. Oldrid Scott's design for the new front to Spring-gardens for Messrs. Cocks & Biddulph's bank (1,686) is rather weak in the treatment of the ground story; the projecting wings at each end, crowned with broken pediments have a good and rather bold effect, and the whole looks like a bank. That is just what Messrs. Lockwood & Son's "New Bank Buildings, Chester" (1,690) does not look like; it looks very like a bit of ancient Chester Rows architecture, which we presume is the intention; but this kind of picturesque timber building can never be accepted as properly representative of a bank, which should always have a fortress-like look of solidity about it, at all events in the bank story. Among other things that may be mentioned in the class of designs we are now considering are Mr. Atkin Berry's "Offices, Moorgate-street" (1,633), a pretty bit of Gothic street architecture shown in a pretty water-colour drawing; Mr. R. G. Kirkby's "Design for Municipal Buildings, South Shields" (1,665), a nicely-grouped Classic design (no plan); Messrs. Wimperis & Arber's "Empress Club, Dover-street" (1,677), which fulfils the ordinary ideal of club architecture, but certainly does not rise any higher than that; and Mr. Percy Adams's small pen-drawing of "Dorking Infirmary" (1,679; no plan), which is of interest as showing a certain picturesqueness of effect obtained from grouping of features, in an absolutely plain structure.

In domestic architecture there is nothing of the highest scale or importance, unless we are to regard Mr. Gordon's "Hunter Combe Manor, Oxfordshire" (1,678: no plan), as a genuine commission; we must confess it looks rather to us like an imaginary house. If it is really a house to be carried out, the architect must have got hold of a millionaire client whose wealth is superior to his taste, for a more bumptious-looking mansion, and more at variance with what a gentleman's house ought to be, it would be difficult to imagine. The drawing is a fine and effective one.

Mr. Leonard Stokes's "New House, Ascot Heath" (1,528), shows both a plan and a compass (a rare attention in Academy drawings!), and a suitabie aspect for the two principal sitting-rooms; but the cook will hardly thank him (in summer) for facing the kitchen south. The design is simplicity itself; materials apparently brick with cement or rough-cast panels, and one hipped roof over all. Mr. Champneys's "House at Heathfield" (1,558) is a pretty sketch; apparently a chapel forms part of the scheme, but there is no plan to explain. Mr. Ernest Newton's "Entrance Front of House at Chislehurst" (1,573) has a plan but no compass; the dining-room and drawing-room face the same way, the dining-room with an obtusely-pointed bay in two cants, the drawing-room with a bay in four cants, also coming to a point on the centre line of the room—thus in both instances there is a mullion in the middle of the window instead of a light. To plan windows this way may be amusing as a variation in architectural character, but it is certainly not an advantage in any other respect. Architecturally this is a plain brick house with no ornament but a checquer-work of brick and stone in the upper part of the porch turret, and three lozenges over the door, perhaps forecrests. Mr. Newton's other two contributions are "Entrance Front, Steep Hill, Jersey" (1,577), and "Garden Front, Glebelands, Wokingham" (1,578). The former shows an interesting plan but no compass; the drawing-room and library face to the right of the plan, with a verandah between their projecting bays; the dining-room faces to the bottom of it. The exterior is apparently rough-cast; there is a picturesque treatment of one of the chimney-stacks to be noted. No. 1,578 shows no plan, and is a water-colour view of an E-shaped house of the old English domestic type, pleasant and homely.

Mr. Brierley's "Welburn Hall Yorkshire" (1,576: no plan) was published in our issue of May 18, and we need not say more about it here. "Grimston Court" (1,586), by the same architect, shows a plan of the "irregular picturesque" type, which also characterises the architecture, but there is nothing in the plan to justify or explain the large battlemented mass which rises at the back of the perspective view and forms the most important element in the general effect. The aspects of the principal rooms are properly arranged. Whether it is good to have the servants' hall between the kitchen and the dining-room may be a question.

In Nos. 1,591, 1,596, and 1,597, Mr. C. J. Harold Cooper gives an interesting series of small illustrations of "A House near Piccadilly." The plans are shown to a good large scale, and are interesting as showing the manner in which a good deal of effect is got out of a confined site; the interiors of various rooms are shown in etchings by Mr. Slocombe, and look very well. This is an interesting and unusual exhibit, and might well have been hung lower. Mr. Stratton's "House on the Thames—River Front" (1,598) looks very like a river-side house. Mr. Belcher shows a large but sketchily-executed interior water-colour view of the "Salon, Château Mauricien, Wimereux" (1,599), which shows the usual features of a dignified Classic interior, with nothing special for remark, except that it appears, from the colouring, that the lower surfaces of the modillions in the cornice are gilt. Mr. T. H. Watson, in "Whitney Court Herefordshire" (1,601), shows both a view and a compass, from which we learn that drawing-room, dining-room, morning-room, and library,

are all lighted the same way, which cannot be right, unless considerations of prospect have entirely over-ridden those of aspect. The connexion of kitchen and dining-room, though they are rather far apart, is well arranged.

Messrs. Mallows & Grocock's "Terrace and Summer Houses, Dalham Hall" (1,625) is a good piece of garden architecture, showing a semicircular bay on columns projecting from the terrace wall, with a quadrant staircase leading up to it on each side, and a treillage arch behind. The balustrade of the terrace is treated as a small rusticated arcade in place of the usual balusters—a variety at all events. Mr. Arnold Mitchell's "House, Bowden Green" (1,631) is overdone with windows, and seems almost to stand on glass like a shop-front. The same architect's "Additions to Tissington Hall" (1,630) appeared in the *Builder* of May 18, so we need not further describe it. Messrs. Bedford & Kitson send a businesslike frame of plans and elevations of "St. Aidan's Vicarage, Leeds" (1,636), a plain red brick house without any special character—what one may call a sensible house, but the windows might have been treated so as to indicate the staircase. The difference of levels of ground is cleverly made use of in the planning. Messrs. Bateman & Bateman's "House at Barnt Green" (1,640) has some similarity to the one illustrated in the present issue; there is a nice point in the planning of the dining-room, hall, and drawing-room; the hall, with semi-octagon ends, is between the two, the three apartments being *en échelon*; the doorway opening into the lower end of dining-room being opposite to that opening into upper end of drawing-room. The character of the house is very similar to that of the one we illustrate.

Mr. Bodley's "Hayes Lodge, Morley" (1,647), was illustrated in our issue of May 4. A plan and compass are given, but we must confess that their joint consideration does not lead to very satisfactory conclusions. Drawing-room, dining-room, smoking-room, hall, and boudoir, all face directly south, so that in hot summer weather there is not a sitting-room out of the sun; and the kitchen is at the furthest part of the house from the dining-room, and with a circuitous route. If architects who are Academicians plan houses in this way, what is to be expected of outsiders?

Among other drawings which may be mentioned in the group of domestic architecture are Messrs. Cox & Silk's "Residence at St. Albans" (1,642), a pretty residence of which, oddly enough, only the bedroom plan is shown, which is of little use; Mr. Strong's "Design for Forby Golf Club House" (1,645), a low building with three wide segmental bays—very much what a golf club-house should be in architectural appearance—there is no plan; Mr. Ernest Emerson's "New Stables at Oakover" (1,667), which looks a picturesque building of its kind, but is hung too high to see the plan well; and Mr. Figgis's "House at Merstham" (1,675) and Mr. Atkin Berry's "House at Warlingham" (1,674 and 1,682), all of them pretty little water-colour views of houses, very fitted for an album of "Rural Architecture," but not of any practical value to architects.

As far as illustrations of domestic architecture go in this year's Academy, they seem to indicate that the taste for the picturesque and irregular in house architecture is predominant, and that there is not much attempt at present at designing houses in a symmetrical manner and on the basis of a predominating idea in plan and architectural treatment.

COMPETITIONS.

MISSION CHURCH, MELTON CONSTABLE.—The plans most approved by the Committee on the recommendation of the assessor are those of Mr. George Fox, A.R.I.B.A., of 1, Southampton-row, Bloomsbury, to whom the work has been entrusted. *Proxime accessit*, Messrs. Godderidge, Witts, & Cleland, of Tamworth.

THE TRIBUNAL OF APPEAL UNDER THE LONDON BUILDING ACT.—The Council of the Royal Institute of British Architects have appointed Mr. Edw. A. Gruning to fill the seat on the Tribunal of Appeal left vacant by the death of Mr. Arthur Cates.

TUNBRIDGE WELLS OPERA HOUSE.—Building operations have been commenced for the Tunbridge Wells Opera House. The architect is Mr. J. P. Brigga, of London, and the contractor for the buildings is Mr. J. Jarvis.

REMOVAL OF SNOW IN LONDON.

THE recently issued annual Report of the Chairman of the Highways, Sewers, and Public Works Committee of the Borough of St. Pancras (Mr. Donald McGregor), contains some remarks as to the clearing away of snow in London, and the totally unreasonable demands made by the public on the vestry officials in respect of this, which merit a wider circulation. Mr. McGregor says:—

"A heavy fall of snow again demonstrated the enormous difficulty (and expense) attendant on its clearance. So much has been said on the subject that it is almost nauseating to answer the unreasonable demands that are always made, and criticism dealt out by persons who have no practical knowledge on the subject. Even if cost were no object, the difficulties would not be reduced thereby, as the number of men and carts available for the work is limited, and, notwithstanding a large advance in the wages, there are never enough suitable workmen willing to place their services at the disposal of the Council's officers; and that feature of the case is rendered more difficult by the circumstance that the Legislature has relieved the occupiers of premises of the obligation to cleanse the footways in front. Formerly there used to be almost instantly at the disposal of the public a large army of itinerant workers sufficient for the purpose, but not of the quality that a public body could engage, or pay, and discharge in a summary way. In dealing with public work, many people seem to forget that every hand must be booked, timed, and paid in such a manner as will bear the scrutiny of auditors, and that branch alone absorbs the attention of a large portion of the staff of the department, to the prejudice of other duties they have ordinarily to perform.

It would be as reasonable to expect that a staff of supervisors could be instantly organised, as that an army kept on a peace footing could as quickly be expanded in less than a day to meet an outbreak of war, and, of course, it should be manifest that the Local Body has no power to retain 'reserves' to be called out for compulsory service on the visitation of a snowfall.

It is true, as people say, that a heavy snowfall throws thousands out of employment; but it is equally true that very few of those thousands ever offer themselves as scavengers, and the bulk of those who do and are taken on are not of the best class of labour, or who are amenable to the commonest discipline needful for the execution of the required work. Before quitting the subject, I cite one more illustration of the absurdities of the critics. One indignantly asked 'Why the sweeping-machines were not kept at work in double shifts night and day?' That inquirer was not aware of the fact that there is a limit to the number of horses, but yet more so the number of carmen obtainable, for though there may be some few—very few—carmen out of work, the masters know full well how difficult it is to get a supply of good carmen for ordinary work who can be trusted with their animals and other property. In such a case the suggestion to double the number of carmen shows how utterly ignorant the critics are of the inexorable logic of facts."

ARCHITECTURAL SOCIETIES.

EDINBURGH ARCHITECTURAL ASSOCIATION.—The members of this Association visited Dunfermline recently, where they were enabled to inspect the old House of Pittencrieff, with its various old articles of furniture, pictures, &c. Mr. John Houston, architect, Dunfermline, acted as leader, and read descriptive accounts of the house and the picturesque glen in which it stands. The party then drove to Pitfirrane, where they were received by Sir Arthur Halkett, Bart., who gave an interesting account of the house, and recalled how it had been inhabited by the Halketts of Pitfirrane since 1437.

STREET IMPROVEMENT, SOUTHPORT.—On the 17th ult., at the Town Hall, Southport, Mr. W. A. Ducat, an inspector to the Local Government Board, held an inquiry into an application by the Southport Town Council for sanction to borrow 15,500*l.* for the laying of wood blocks in Lord-street, and the widening of certain portions of the street. The Borough Surveyor, Mr. R. P. Hirst, stated that the extent of street to be paved was 1,400 yds. long and 45 ft. wide.

APPLICATIONS UNDER THE 1894 BUILDING ACT.

AT the meeting of the Building Act Committee of the London County Council held on May 20, being the day before the Council adjourned for the Whitsuntide recess, the proceedings were governed by the clause in the order of reference which empowers the Committee at certain seasons to act on behalf of the Council in relation to matters included in the order of reference. Those applications to which consent has been given are granted on certain conditions. Names of applicants are given in brackets. Buildings are new erections unless otherwise stated:—

Lines of Frontage.

Finsbury, East.—Rebuilding of the Star public-house, City-road, and Nos. 226 to 232, and 236 to 246, Old-street, St. Luke (even numbers only, inclusive) (Messrs. Clutton for Ecclesiastical Commissioners).—Consent.

Marylebone, West.—An iron and glass covered-way in front of No. 33, Hamilton-terrace, St. John's Wood (Mr. J. H. May for Mrs. E. Wilkinson).—Consent.

Brixton.—Six houses on the west side of Cowley-road, Brixton, between Nos. 50 and 76 (Mr. J. Fasnacht for Mr. W. Goodwin).—Consent.

Hackney, South.—Buildings, with shops on the ground floor, on the site of Nos. 112 to 120 (even numbers only, inclusive), Lower Clapton-road, Hackney, at the corner of Laura-place (Mr. H. Riches for Messrs. W. H. Tilley & Co.).—Consent.

Hammersmith.—Two blocks of dwelling-houses on the west side of Wood-lane, Uxbridge-road, Shepherd's Bush, northward of No. 3, Wood-lane (Mr. T. Athey for Mr. H. Oliver).—Consent.

Hampstead.—An additional story on part of the entrance lodge to a house known as Belsize-court, Belsize-lane, Hampstead (Mr. A. F. Faulkner for Mr. J. S. Bergheim).—Consent.

Holborn.—Two oriel windows at the first, second, and third floor levels, in front of Nos. 108 and 110, High Holborn (Mr. W. C. Waymouth for Messrs. Cardinal & Harford).—Consent.

Kensington, North.—An iron and glass fernery on the balcony at the first-floor level in front of No. 19, Stanley-gardens, Notting Hill (Messrs. Hukins & Mayell for Mrs. Eddy).—Consent.

Lewisham.—Open porticoes at the entrances to Nos. 24 and 28, Leyland-road, Lee (Mr. E. Petters for Mr. R. B. A. Chambers).—Consent.

Norwood.—Five blocks of residential flats and a house, with a shop on the ground floor, on the east side of Knight's Hill-road, West Norwood, at the corner of Rothschild-street (Mr. H. Bushell for Mr. P. Stock).—Consent.

Poplar.—A projecting lamp at the Duke of Clarence public-house, No. 133, Grundy-street, Poplar, to overhang the public way of Greenfield-street (Mr. J. R. Johnston for Messrs. Taylor, Walker, & Co.).—Consent.

St. Pancras, West.—A porch, with a three-story enclosure to a staircase over, in front of a block of artisans' dwellings proposed to be erected on the north side of Cardington-street, Hampstead-road, St. Pancras (Mr. A. Whitelaw for the London and North-Western Railway Company).—Consent.

Strand.—Balconies, at the second and third floor levels, in front of a proposed building on the site of No. 46, Great Marlborough-street, St. James's (Messrs. W. Dunn and R. Watson for Mr. C. H. Smith).—Consent.

Wandsworth.—That the application of Mr. Perks, on behalf of Mr. R. Simpson, for an extension of the period within which the erection of houses, with one-story shops, on the site of The Hawthorns and grounds, on the west side of Balham High-road, Wandsworth, at the corner of Marius-road, was required to be completed, be granted.—Agreed.

Lewisham.—Four houses, with one-story shops in front, on part of the site of The Priory, High-street, Lewisham (Messrs. Norfolk & Prior for Mr. C. C. Story).—Refused.

Poplar.—A projecting lamp, to overhang the public way, in front of the Steam Packet beer-house, No. 1, Orchard-place, Blackwall, Poplar (Mr. J. R. Johnston for Messrs. Taylor, Walker, & Co.).—Refused.

Strand.—A projecting sign, to overhang the public way, in front of No. 19, Rupert-street, Shaftesbury-avenue, St. James's (Messrs. Nash & Hull for Mr. A. Pauley).—Refused.

Hampstead.—An iron and glass porch at the entrance to a house known as Kidderpore, Finchley-road., West Hampstead (Messrs. W. E. and F. Brown for Mr. G. A. Dunn).—Refused.

Clapham.—A wood and glass conservatory at the entrance to No. 8, Nightingale-gardens, West-side, Clapham Common, to abut upon Kyrle-road (Messrs. H. Wakeford & Sons for Mr. H. Leach).—Refused.

Lewisham.—Three houses, with shops on the ground floor, on the forecourt of No. 4, Belmont Hill, High-road, Lee (Messrs. Daniel Smith, Son, & Oakley for the Earl of St. Germans).—Refused.

Wandsworth.—A two-story addition in front of No. 35, Jews-row, Wandsworth (Mr. A. E. Nightingale for Mr. H. F. Bartle).—Refused.

St. George, Hanover-square.—An iron and glass shelter at the entrance to No. 15, Wilton-road, St. George, Hanover-square (Mr. W. A. Large for Mr. C. Gerli).—Refused.

Width of Way.

Wandsworth.—A boundary fence on the west side of a roadway skirting Putney Heath and leading northward out of Portsmouth-road, Putney (Mr. P. E. Pilditch).—Consent.

Chelsea.—A laboratory-house, greenhouse, and potting shed at the Physic Garden, Queen's-road West, Chelsea (Mr. E. G. Rivers for the Trustees of the Apothecaries' Company's Physic Garden).—Consent.

Southwark, West.—School buildings on the west side of Mansfield-street, Southwark, at the corner of Earl-street (Mr. A. J. Pilkington for the Managers of St. George the Martyr Schools).—Consent.

Whitechapel.—Two houses on the east side of Tenter-street East, Whitechapel (Messrs. N. & R. Davis).—Consent.

Hackney, North.—A factory building on the west side of Tyssen-street, Dalston-lane, Hackney, with a portion of the boundary fence at less than the prescribed distance from the respective centres of Tyssen-street and Tyssen-passage (Mr. E. O. Sachs for The Shannon, Limited).—Refused.

Rotherhithe.—A warehouse on the north side of Tanner-street, Bermondsey, at the corner of Finnimore-court and to extend over Rowland's-court (Mr. G. A. Hall for Mr. G. H. Hughes).—Refused.

Space at Rear.

Hammersmith.—A block of dwelling-houses on the west side of Wood-lane, Uxbridge-road, Shepherd's Bush, northward of No. 3, Wood-lane, with an irregular open space at the rear (Mr. T. Athey for Mr. H. Oliver).—Consent.

Lewisham.—A two-story dwelling-house on the east side of Farley-road, Lewisham, at the corner of Davenport-road, with an irregular open space at the rear (Mr. C. Farley).—Consent.

St. George, Hanover-square.—A deviation from the plans approved on July 31, 1899, under Section 41 (1) (vi.) of the Act, for the erection of a block of residential flats on the site of No. 25, Hanover-square, at the corner of George-street, St. George, Hanover-square, with an irregular open space at the rear, so far as relates to the erection of a small addition at the first-floor level at the rear of the premises (Messrs. C. Bell, Withers, & Meredith for Mr. G. H. Schofield).—Consent.

Whitechapel.—Three dwelling-houses, with shops on the ground floor, on the north side of Commercial-road, Whitechapel, at the corner of Church-lane, with irregular open spaces at the rear (Mr. H. O. Ellis for Mr. S. Kirstein).—Consent.

Walworth.—The reduction of the area of the open space at the rear of No. 92, New Kent-road, Walworth (Mr. A. S. Tayler for the Committee of the Murphy Memorial Hall).—Consent.

Holborn.—A block of residential flats on the site of Nos. 47, 48, and 49, Hunter-street, and No. 9, Handel-street, Brunswick-square, St. Pancras, with an irregular space at the rear (Mr. J. Davis for Messrs. Brown Brothers).—Refused.

Kensington, South.—A block of residential flats, with business premises on the basement, ground and first floors, on the south-east side of Brompton-road, Kensington, at the corner of New-street, with an irregular open space at the rear (Mr. C. W. Stephens for Harrod's Stores, Limited).—Refused.

Width of Way and Line of Frontage.

Hackney, Central.—Additions on the east and west sides respectively of a church on the north side of Pembury-grove, Lower Clapton, with the forecourt fence at less than the prescribed distance from the centre of the street (Mr. J. W. Dunford for the Trustees of the United Methodist Free Church).—Consent.

Lines of Frontage and Space at Rear.

Hackney, North.—An addition at the rear of No. 90, Stamford-hill, Hackney, to abut upon Grove-lane (Mr. E. Bates for Messrs. Welford & Co.).—Consent.

Battersea.—Seven houses on the west side of Winders-road, Battersea, between Battersea Dispensary and Simpson-street (Messrs. N. S. Joseph, Son, & Smithem for Mrs. Simpson).—Consent.

Width of Way and Space at Rear.

Rotherhithe.—A medical officer's house at South-wharf, Rotherhithe, and the erection of two cottages on the east side of a private way out of the south side of Rotherhithe-street (Messrs. T. W. Aldwinckle & Son for the Metropolitan Asylums Board).—Consent.

Alteration of Building.

Hampstead.—A greenhouse on the east side of No. 2, Hampstead Hill-gardens, Rosslyn Hill, Hampstead, with a portion of such greenhouse within 4 ft. of the party-wall between such greenhouse and the garden at the rear of No. 12, Rosslyn Hill, without such party-wall being carried up as required by Section 59 (2) of the Act (Mr. F. J. Potter for Mr. R. G. Orr).—Consent.

Formation of Streets.

Lewisham.—That an order be issued to Messrs. Daniel Smith, Son, & Oakley, sanctioning the formation or laying out of a new street for carriage traffic out of the east side of Eliot Park, Blackheath, and in connexion therewith the widening of a portion of Eliot Park (Messrs. Kennard Brothers). That the name Oakcroft-road be approved for the new street.—Agreed.

Poplar.—A deviation from the plan sanctioned by the late Metropolitan Board of Works on June 3, 1881, for the formation of streets in continuation of Portree-street and Lee-place (now known as Lanrick-road), Poplar, so far as relates to the direction and extent of those streets (Mr. C. Dunch for Mr. J. Abbott).—Agreed.

Rotherhithe.—That the Council do make no order with respect to the application of Messrs. T. W. Aldwinckle & Son on behalf of the Metropolitan Asylums Board, for sanction to the formation or laying out of a street for carriage traffic to lead out of the south side of Rotherhithe-street, Rotherhithe, on a portion of South Wharf.—Agreed.

Poplar.—That an order be issued to Mr. H. Hooper, refusing to sanction the formation or laying out of a street for carriage traffic in continuation of Cahir-street, East Ferry-road, Milwall (for Lady Margaret Charteris).—Agreed.

Woolwich.—That an order be issued to Messrs. Farebrother, Ellis, & Co. refusing to sanction the formation or laying out of new streets for carriage traffic on the Bowater estate, Trinity-street, Woolwich-road, Woolwich (for the trustees of the Bowater estate).—Agreed.

Southwark, West.—That an order be issued to Messrs. Hubbard & Moore refusing to sanction the formation or laying out, for foot traffic only, of a street to lead out of the west side of Southwark Bridge-road, near Sumner-street (for Mr. H. Ward).—Agreed.

Buildings for the Supply of Electricity.

Woolwich.—An electricity generating station and works on the east side of White Hart-road, Plumstead-marshes (Mr F. Sumner for the Council of the Metropolitan Borough of Woolwich).—Consent.

Means of Escape from top of High Buildings.

St. George, Hanover-square.—Means of escape in case of fire on the eighth story of a proposed block of residential flats to be known as No. 10, Park-lane, St. George, Hanover-square (Messrs. Rolfe & Matthews for Sandow's, Limited).—Consent.

Lines of Frontage and Construction.

Islington, West.—Retention of two wooden sign boards on the south-west side of Holloway-road, Islington, one on the site of the proposed Marlborough Theatre, and the other at the corner of Parkhurst-road (Mr. F. Matcham for Mr. F. W. Purcell).—Consent.

Strand.—Retention of a temporary stone landing with a wooden goods shoot under, at No. 71, Jermyn-street, St. James's, to abut upon Bury-street (Mr. G. F. Harrington for Messrs. Standen & Co.).—Consent.

Width of Way and Construction.

Poplar.—An iron workshop on the west side of North-street, Poplar (Messrs. T. Evans & Son).—Refused.

Width of Way and Working-class Dwellings.

Lambeth, North.—That the Council's resolution of February 19, with respect to the erection of three blocks of dwelling-houses to be inhabited by persons of the working-classes on a site between Gloucester-street and Burdett-street, Lambeth, be modified, so that the time within which such dwelling-houses were required to be completed be extended to two years.—Agreed.

Conversion of Building.

Hampstead.—The conversion into dwelling-rooms of the first floor over the stables on the west and south sides of a yard out of the west side of Belsize-lane, Hampstead (Mr. F. Wildy for Mr. W. Burdett).—Refused.

Deviations from Certified Plan.

Holborn.—Deviations from the plans certified by the District Surveyor under Section 43 of the Act, so far as relates to the proposed erection of two houses (with shops on the ground floor) and a warehouse building, on the site of Nos. 66 and 68, Theobald's-road, and No. 1, Emerald-street, Holborn (Mr. R. L. Cox for Mr. M. Boyce).—Refused.

Naming of Streets.

Battersea.—That the new streets on the site of the Latchmere allotments, Sheepcote-lane, Battersea, be named Burns-road, Council-street, Joubert-street, and Odger-street.—Agreed.

TRINITY HOSPITAL, LEICESTER.—The Mayor of Leicester performed the ceremony of laying the memorial-stone of the new Trinity Hospital, in the Newarke, Leicester, on the 20th ult. The new building will accommodate twenty men and seventeen women, with apartments for the matron and other attendants, and the cost is estimated at about 12,000*l.* The architects are Messrs. R. J. & J. Goodacre, the builders Messrs. W. Moss & Sons, Limited, Loughborough, and the clerk of the works Mr. J. Basford.

ENGINEERING SOCIETIES.

INSTITUTION OF ELECTRICAL ENGINEERS (DUBLIN LOCAL SECTION).—The first Report of the Dublin Section of the Institution of Electrical Engineers has been issued. The Report commences with commenting on the great loss the Section has sustained by the death of its first Chairman, Professor Fitzgerald. For the Session 1901-1902 Professor W. F. Barrett, F.R.S., has been elected Chairman, Mr. J. W. Towle Vice-Chairman, and the Committee consists of Messrs. C. A. Burge, C. P. C. Cummins, F. Gill, Monsignor G. Molloy, D.D., D.Sc., Messrs. A. E. Porte, W. Tatlow, P. S. Sheardown, F. T. Trouton, D.Sc., F.R.S., G. F. Pilditch, and M. C. Olsson.

CHRIST'S HOSPITAL AND ITS SITE.

THE Earl of Jersey's Committee of the House of Lords have found as proved the preamble of the Bill promoted by the Governors of St. Bartholomew's Hospital for their compulsory acquisition of a portion of the site of Christ's Hospital upon arbitration. For 1¼ acres the Governors are willing, we understand, to pay 117,000*l.*; Christ's Hospital require 201,000*l.*, but desire rather to sell the entire site for 750,000*l.* On behalf of the Council of Almoners of Christ's Hospital, Mr. Fitzgerald, K.C., urged that they could not accept arbitration, inasmuch as they owned a site of 5½ acres in the heart of the City of London for which specific offers of 720,000*l.* and 700,000*l.* had been made to them. St. Bartholomew's Hospital set forth their need of more room for the adequate treatment of out-patients and casualty patients, for the nursing staff, operating-theatres, and mortuary, also for a new pathological department, for isolated blocks for infectious diseases, and for their resident medical staff. At their meeting last week the Court of Common Council carried a report prepared by their City Lands Committee upon the two Bills now before Parliament, recommending that in view of the magnitude of the public interests involved, no opposition should be offered to the acquisition by St. Bartholomew's Hospital of the land shortly to be vacated by Christ's Hospital. In the course of the discussion Alderman Sir George Faudel-Phillips is reported to have stated that in the case of one of the two offers we cite above the tendering parties are now bringing an action against the Almoners for non-fulfilment of their contract, and that under the Charity Commissioners' scheme for removal of the boys' boarding school to Horsham the charity had suffered a loss of between 7,000*l.* and 8,000*l.* a year. On the other hand, it is announced that the petition of the London County Council praying to be heard against the Bill for authorising the sale and disposal of the site will represent that there is a great and increasing need for the preservation of open spaces in the neighbourhood; that there is no precedent for abrogating the provisions of the Disused Burial Grounds Act for the purposes of enhancing the value of lands to which that Act applies and enabling them to be sold as ordinary building land for ordinary commercial objects; that the existing buildings would suitably serve for the science school and the girls' day school (1,000 pupils) which the Governors are required to provide on a site distant not further than three miles from the Royal Exchange; that the Council should be enabled to acquire certain parts of the site and buildings which possess historical and architectural interest; and that a clause should be inserted in the Bill for precluding the erection of buildings upon the ground except in accordance with the statutory obligations applying to the County of London generally, and to secure the transfer to the Council of any objects of antiquarian, archæological, or geological interest that may be excavated. The Almoners' Bill will be read for the second time at an early date in the House of Commons. A statement issued by the Governors of Christ's Hospital avers that the cost of the migration to Horsham, though cut down in every possible way, amounts to no less than 550,000*l.*, and that the valuable character of the Newgate-street site was indeed the main justification for the compulsory removal of the school from London. We may point out that the Charity Commissioners' scheme includes no provision for a disposal of the hospital buildings and their site. The authority of an Act is required before the Governors can give a good title to the land for building purposes. Some parts of the site are leasehold, and some part has been used for interments.

CO-OPERATIVE BUILDINGS, EXETER.—The foundation stone has just been laid of new premises for the Exeter Co-operative Society at St. Sidwells. The buildings will cost about 10,000*l.*, but the section to be now erected will cost only between 2,000*l.* and 3,000*l.* The elevation of the block will be of red brick, and the central gable will have a clock tower-ette. Mr. F. J. Commin, Exeter, is the architect, and the contractor is Mr. G. Herbert.

Correspondence.

To the Editor of THE BUILDER.

THE ORIGINS OF ANCIENT ART.

SIR,—In his recent lecture at the R.I.B.A., Professor Petrie asks for an explanation of the early form of Greek column increasing in size from bottom to top.

I do not think there is any difficulty in explaining the peculiarity. An examination of any old timber building will show that the main posts are always placed butt upwards.

Old workmen, who still retained many old building traditions, have assured me that the object of this was to let the sap run out. It is easy, at any rate, to understand the fancy that damp would not rise from the ground the wrong way of the cells; for aught I know, both theories may be correct.

Internally the butt ends were roughly formed into spreading corbels, that gave extra support to the tie-beams, and externally we are all familiar with the manner in which the spreads of the butts of corner posts were carved into angels and other legendary beings.

The same reasons that influenced the Mediæval doubtless affected the Greek builder, and the columns, which were originally of wood, were placed butt upwards, and in time the tops of the butt formed into capitals, the lower end remaining naturally without base.

If the trees were conifers, as is probable, the butts would be more regularly shaped than our English oak. RALPH NEVILL, F.S.A.

WHAT IS A "SHINER"?

SIR,—In reply to Mr. Kampe's question in your last, I believe "shiner" is a West-country term, and is there used to denote a thin stone built face outwards—being, in fact, a small stone, but looking like a large one when in place. J. H.

The Student's Column.

SANITARY FITTINGS AND PLUMBING.

20.—TRAPS.

A PLUMBER'S trap is a vessel affording a free passage for water but not for air. In its simplest form it is merely a bent pipe (fig. 1); the bend retains the last portion of the water entering it, and as the water occupies the full bore of the bent portion of the pipe, it affords a barrier against the passage of air.

The waste-pipes from all sanitary fittings, except water-closets and perhaps slop sinks, ought to be disconnected from the drains by being made to discharge over or into trapped gullies placed in the ground outside the building. These drain-traps, however, are not sufficient to prevent foul air passing into the building. The water in the trap may be so charged with impurities as to give off unpleasant gases, and experiments have shown that if the air on one side of a trap is polluted, a small but appreciable amount of the pollution can after a time be traced on the other side; in other words, the foul gases may be absorbed by the water on one side and given off again on the other. An untrapped waste-pipe, even though disconnected from the drain, may thus convey impure air from the drain into the house. But waste-pipes themselves are often seriously fouled by the passage of dirty liquids through them, and the deposits in the pipes decompose and give off foul gasses, which are drawn into the house unless a trap is interposed. The waste-pipes from sinks and urinals are often extremely filthy, and those from baths and lavatories are seldom entirely free from soapy deposits. Every sanitary fitting ought therefore to have a trap, either in itself or in the waste-pipe as near the fitting as possible.

A good trap should be self-cleansing, and should have a sufficient depth of seal and a reasonable resistance to siphonage. Round-pipe traps are most easily kept clean, as the water passes through them with considerable velocity and there are no corners for the retention of filth. On the other hand, they are more easily emptied by siphonage than traps of some other types. Siphonage can, however, be prevented by means of an air-pipe carried from a point near the outlet of the trap, and round-pipe traps, if properly ventilated, are undoubtedly the best. Several modifications of the round-pipe trap have been introduced for the purpose of reducing the risk of siphonage, and will be noticed hereafter. The seal of a trap (other than a round-pipe trap under a valve closet) is seldom entirely destroyed either by siphonage or momentum, unless two or more fittings are connected to the same waste-pipe, but a considerable portion of the water may be drawn out by siphonage or carried out by the momentum of the discharge; the depth of the water-seal is therefore reduced, and, if the fitting is not used again for a long time, evaporation may lower the level of the water to a point below the dip, and air can then pass through the trap.

The D trap has been so frequently condemned by sanitarians that it is now never used by any one with the slightest knowledge of modern plumbing. It cannot possibly be kept clean and becomes in time a miniature cesspool. Its only advantage is that it cannot be unsealed by siphonage; but this is far more than counterbalanced by its uncleanliness. The numerous seams are also sources of danger, and the dip-pipe may be corroded through and allow the passage of foul air, the defect, perhaps, remaining unnoticed for a long time, as the dip-pipe is concealed within the body of the trap. The "mansion" trap, although an improvement on the D trap, soon becomes foul and is now never used.

The "bell" trap (fig. 2) has been very largely used for sinks. It consists of a cup (generally of lead) with a stand-pipe in the middle, over which is placed the brass grate, to the underside of which a "bell" is attached. The bell dips into the water contained in the cup below, and thus forms the seal of the trap. The trap is not self-cleansing, the depth of seal is often less than ½ in., and the flow through the trap is so sluggish that servants often remove the bell and grate, thus allowing a free passage for the air from the waste-pipe. In some cases the grate is hinged, but this is no improvement from a sanitary point of view.

Antil's lead trap (fig. 3) is better, but cannot be recommended. The form illustrated is intended for sinks, and is made in sizes from 2½ to 4 in. at the top, but a modification of it (in lead or brass) is still used for high-class lavatories. Such a trap is shown in fig. 4. A trap of the same general design, but with side outlet is illustrated in fig. 5. Deposits are certain to occur, and the cleansing screws at A are therefore absolutely necessary. Cast lead traps for sinks are also made of the same design as fig. 4, but with longer necks to pass well through the sink for the purpose of soldering the lead cone to the inlet of the trap. Lead cones (fig. 6) for 1¼ in. traps are made to receive 3 or 3½ in. grates, and those for 1½ in. traps to receive 3½ or 4 in. grates. The large grates, of course, ensure a better flow through the traps, but even with this improvement the traps are not self-cleansing, and foul air may pass into the house though perforations or cracks in the concealed midfeather. Traps of the kind illustrated in figs. 4 and 5 are often known as "oval" traps from the shape of the horizontal section of the bodies.

Round-pipe traps are made in various forms, known by distinctive names. Fig. 7 shows an "S" trap, fig. 8 a "three-quarter S" or "open S," fig. 9 a "P" trap, fig. 10 a "bag" trap, fig. 11 a "Q" trap, and fig. 1 a "running" trap. Drawn lead traps of these shapes are often known as Dubois' traps, and are made in sizes from 1¼ in. to 4½ in., each size being made in two weights as follows:—

Diameter of Trap.	Weight of Lead per Super ft.
1¼ in.	4½ lbs. and 6 lbs.
1½ „	5 „ „ 7 „
1¾ „	5½ „ „ 7 „
2, 2½, 3, 3½, 4, and 4½ in.	6 „ „ 8 „

All the sizes from 1¼ to 3 in. inclusive, are made either with or without cleansing screws as required. The larger sizes are intended for water-closets and slop-sinks, and are not fitted with cleansing screws. Special drawn-lead traps and bends for water-closets and slop-sinks are also made, as shown in fig. 12, the diameters ranging from 3½ to 4½ in.; each size is made in two weights (6 lbs. and 8 lbs.) and in two lengths (28 in. and 33 in.) to suit different thicknesses of wall. The advantage of these is that they do away with the objectionable joint in the body of the wall.

Cast-lead P and S traps (with or without cleansing screws) are made in two sizes, 1½ in. and 2 in., for sinks and lavatories, and P traps (without cleansing screw) 4 in. in diameter in two weights, for water-closets, &c. Special 4-in. cast-lead P or S traps of 10 lbs. lead (fig. 13) are made for water-closets and slop-sinks with bases for fixing to the floor, and with sockets for receiving the basins. Similar cast-lead bases and sockets are also fitted to 3½ in. and 4 in. drawn lead P and S traps.

In order to ensure a more thorough flush of water through the trap, the inlet ought always to be considerably enlarged. In many lavatory basins the waste-plug is only 1 in. or 1¼ in. in diameter, and the effective area of the opening is reduced by the solid part of the grating below. To fix a 1½ in. trap under such a fitting is a mistake, as it cannot be properly flushed by the discharge. The area of the openings in the waste-grating ought always to be greater than the sectional area of the trap.

Drawn-lead traps are of equal bore throughout, and some plumbers prefer cast or hand-made seamed traps with square dips and weir outlets, as shown in fig. 14. The depth of the seal is thus considerably increased, and a better scour is obtained in the bottom of the trap. The size illustrated is suitable for water-closets, and has an enlarged inlet, and less easy curves, so as to reduce the risk of siphonage.

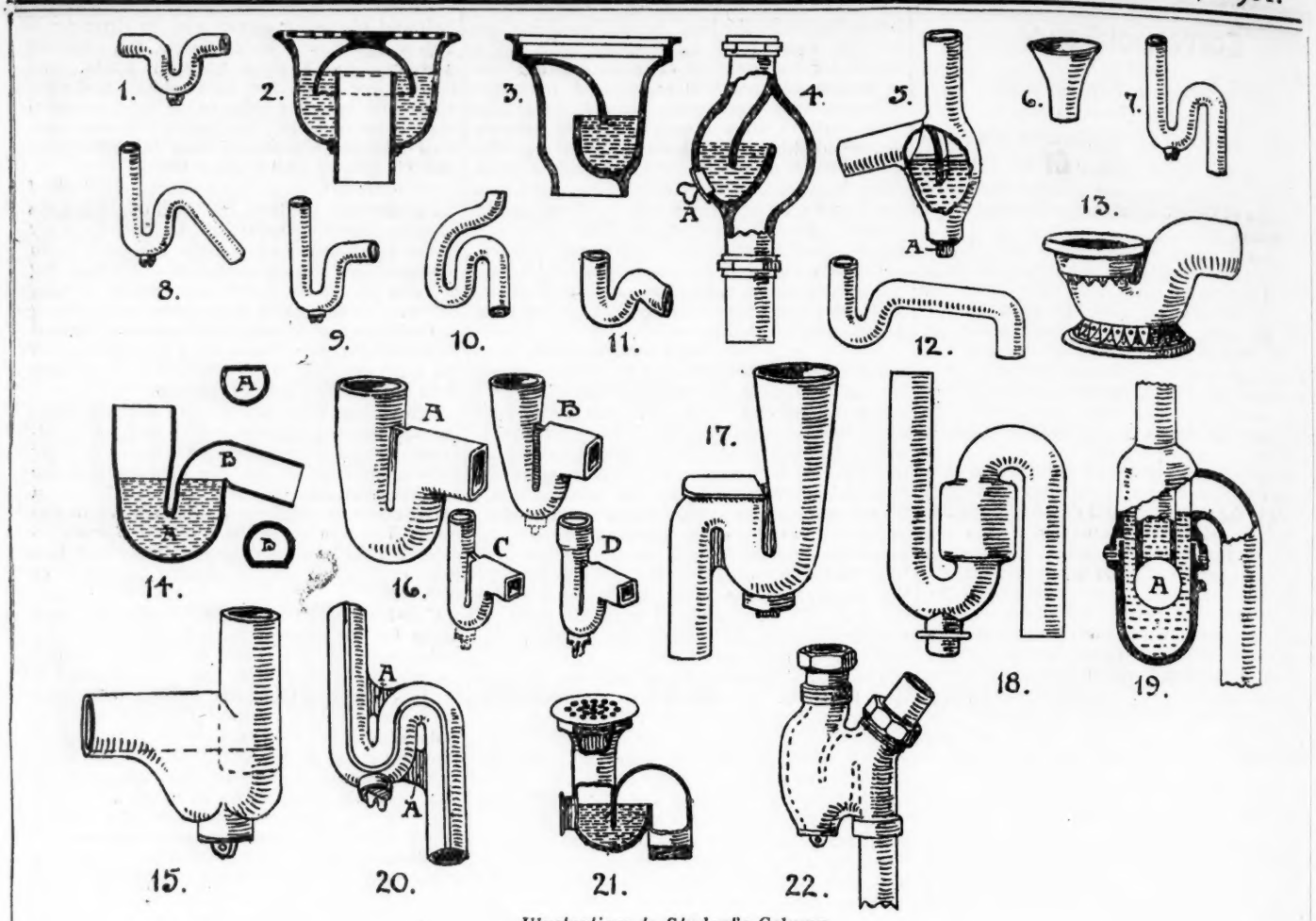
Cast-lead traps of various kinds are now made for the express purpose of preventing siphonage in the case of single fittings. Smeaton's "Eclipse" trap (fig. 15) has served as the model from which later designs have been produced. It has a round dip-pipe, and the body is designed to give a considerable area of standing water on the outlet side of the trap, and a volume of air in the angle above this water. In Hellyer's "Anti-D" trap (fig. 16) the chief peculiarity is the square outgo. It has the same angular air-space above the standing water as the "Eclipse" trap, but differs from the latter in having two thicknesses of lead between this air-space and the inlet-pipe. The size marked A has a 4¼ in. inlet and a 3 in. outlet, and is intended chiefly for valve-closets and slop-sinks; B has a 3½ in. inlet and 2½ in. outlet, the depth below the dip being 2 in., and is intended for large sinks and baths; C is a lavatory trap and has a 1¼ in. inlet and outlet; D is similar to C, but with the inlet enlarged to 2½ in., and is suitable for lavatories and small sinks and baths. A is of metal equal to 8 lbs. lead, and B, C, and D, 9 lbs.; the three latter are made with cleansing screws, if required. The depth of seal is in every case 1⅝ in., and even the largest trap holds only 2½ pints of water, or less than one-sixth of the quantity generally allowed for flushing a water-closet.

The "Kensington" cast-lead trap is on somewhat similar lines, having a flat top over the standing water on the outlet side of the trap. It is made in P or S form (fig. 17) in two sizes, 3½ to 1½ in. and 4 in. to 2 in., for sinks, &c., and in P form (4½ in. to 4 in.) for water-closets. These traps are self-cleansing and offer considerable resistance to siphonage.

The "Hadley Anti-siphonic" trap (fig. 18) is guaranteed by the makers "to give a permanent seal under all conditions" without vent-pipe. It is a round pipe trap with an enlargement on the outlet leg, and with a great depth of seal. Partial siphonage of the trap may, of course, occur, but it is claimed that the enlarged portion cannot possibly be emptied; the water in this falls back after a discharge and is sufficient to recharge the lower part of the trap. It is made of lead in S and P shapes, and in the following sizes: 1, 1¼, 1½, 1¾, 2, and 2½ in., for sinks, lavatories, urinals, &c. There is a possibility of deposits accumulating in the enlarged portion.

Mechanical traps are now seldom used, as they are not self-cleansing. The "Bower" trap (fig. 19) is well known, and, although not the best, will serve as an example. The dip-pipe, outlet-pipe, and upper portion of the body are made in one piece of cast lead, and the lower portion of the body of lead or glass. A light indiarubber ball (A) in the body of the trap is supposed to seat itself against the dip-pipe and form an efficient barrier against the entrance of foul air into the house. The ball obstructs the passage of the water through the trap, and deposits are certain to occur. A perforation in the upper part of the dip-pipe might pass unnoticed for a long time, as it is concealed in the body of the trap.

Lead is the metal most generally used for the traps of those sanitary fittings which are not trapped in themselves, but iron, brass, and white metal are also used. Seamed lead traps



Illustrations to Student's Column.

made by hand are now seldom adopted; they are costly, and are soon corroded along the seams, besides being subject to defects due to careless workmanship. The seams are generally soldered, and may be either wiped or formed with the tool known as the "copper bit," the wiped seam being the better of the two. "Burned" seams require special apparatus, and are not often made by the journeyman plumber. In these seams the joint is formed with lead instead of solder, thus avoiding the galvanic action set up between the tin and lead. Cast-lead traps with burned seams are generally produced in factories. The example shown in fig. 20 is known as Claughton's, and is cast in two pieces, which are afterwards united by burned seams. Webs are cast on at AA to prevent the drooping of the outgo, which is sometimes so serious as to destroy the seal of an ordinary trap. S and P traps of this form are made in three sizes, 1¼ in., 1½ in., and 2 in., and running traps in two sizes, 1½ in. and 2 in. The lead is equal to 7½ lbs. per sup. ft.

Several examples of cast-lead traps have been given. If properly made, they ought to be smooth inside and the metal ought to be of equal thickness throughout and free from pinholes and other defects. Drawn-lead traps are made by forcing lead through annular dies, as in the process of pipe manufacture, but special arrangements are adopted for bending the pipes to the desired curves. Drawn-lead traps are as smooth inside as outside, and are of uniform bore throughout. When the inlets are of proper size the traps are self-cleansing, but the smooth surfaces and easy curves render them peculiarly liable to unsealing by siphonage or momentum; hence the necessity of trap-ventilating pipes.

Cast-iron traps are made in various sizes for sinks, baths, water-closets, and other fittings; several examples have been given in preceding chapters. Tye & Andrew's sink traps are of P and S shape, with a midfeather between the inlet and outlet portions. They are made in three sizes, 3-in. grate, with 1½ in. outlet; 4 in. grate, with 2 in. outlet; and 6 in. grate, with 3 in. outlet. Brass clip grates are provided for stone sinks, and brass screw grates (fig. 21) for lead and slate sinks. The outlet may be screwed, as in the illustration, for connexion to an iron waste-pipe, or plain for connexion to a lead waste-pipe. For baths and lavatories the inlet and outlet are screwed. The cleansing screw is of brass, and may be placed in the side or bottom of the trap, the latter being the more convenient position. The traps are without ventilating arms, and any imperfections in the midfeather may pass unnoticed for a long time. The traps are galvanised, but the coat of zinc affords very little protection. Other cast-iron traps are coated with Angus Smith's solution, or by the Bower-Barff process, but better protection is afforded by vitreous or porcelain enamel. The castings ought to be smooth, of uniform thickness, and free from pinholes and other defects. A glass-enamelled iron midfeather trap for lavatories is shown in fig. 6, chap. ix.; cast-iron bath-traps in figs. 6, 7, 9, and 10, chap. xi.; and a cast-iron water-closet and trap in fig. 6, chap. xiv.

Cast brass traps are often used for lavatories, and less frequently for baths and sinks. A common form for lavatories is shown in fig. 4. It is neat in appearance, but is not self-cleansing. The brass midfeather trap with vent-union (fig. 22) is on somewhat similar lines, with 1½ in. inlet and outlet. Two forms of bath-trap were illustrated in figs. 4 and 5, chap. xi., the latter having a coupling for an anti-siphonage pipe. The common defect of brass traps is that they are very rough inside, and deposits are almost certain to occur in consequence. On the other hand, they are stronger and less easily corroded than lead. Some makers prefer to leave the traps dull outside, while others finish them by polishing or nickel-plating. White-metal traps follow the same lines as brass traps, but are not often used.

Glazed-ware traps are made for laboratory and kitchen sinks. They are generally 2 in. in diameter, in P or S shape. An example was given in fig. 8, chap. vi. They are self-cleansing and incorrodible. Glazed-ware traps for water-closets and slop-sinks have been illustrated in the chapters on those fittings.

SADLER'S WELLS THEATRE.—Sadler's Wells Theatre has just been renovated, the work having been carried out under the supervision of Mr. Bertie Crewe. The ceilings, of lath and plaster, have been removed, and silicate cotton substituted. Other improvements include the introduction of a fireproof curtain and the addition of two "extra" exits and fireproof staircases. The work has been carried out without interfering with the nightly performances, the scaffolding having been taken down each day. The whole of the drainage has been reconstructed. The contractors were Messrs. John Welbking & Sons, the general foreman having been Mr. Charles Abbey.

Illustrations.

DRAWING-ROOM TO MANSION, SUFFOLK.

THE dimensions of this room are 31 ft. long by 17 ft. wide and 12 ft. 6 in. high, and in addition to this there is a large bay window facing west on the side opposite the fireplace. The walls are panelled in mahogany, the larger panels being filled in with a rich green silk material; the mouldings and enrichments of the wood panels are gilded in an old gold tone. The ceiling is treated with bold fruit enrichments in fibrous plaster, executed by Messrs. Jackson & Sons from the architect's design.

The modelled figures and other ornaments to the mantelpiece were carried out by Mr. Taylerson. A. N. PRENTICE.

HOUSE AT BARNT GREEN, WORCESTERSHIRE.

THE site of this house is situated on a knoll sloping towards the S.E., S., and S.W., with long distant views in these directions, which governed the disposition of the plan, and the form it should take with the supporting terraces and garden. Rough cast, stone, stone slates, and old bricks for chimneys, were the materials proposed, with some oak work inside.

The architects are Messrs. Bateman & Bateman, of Birmingham.

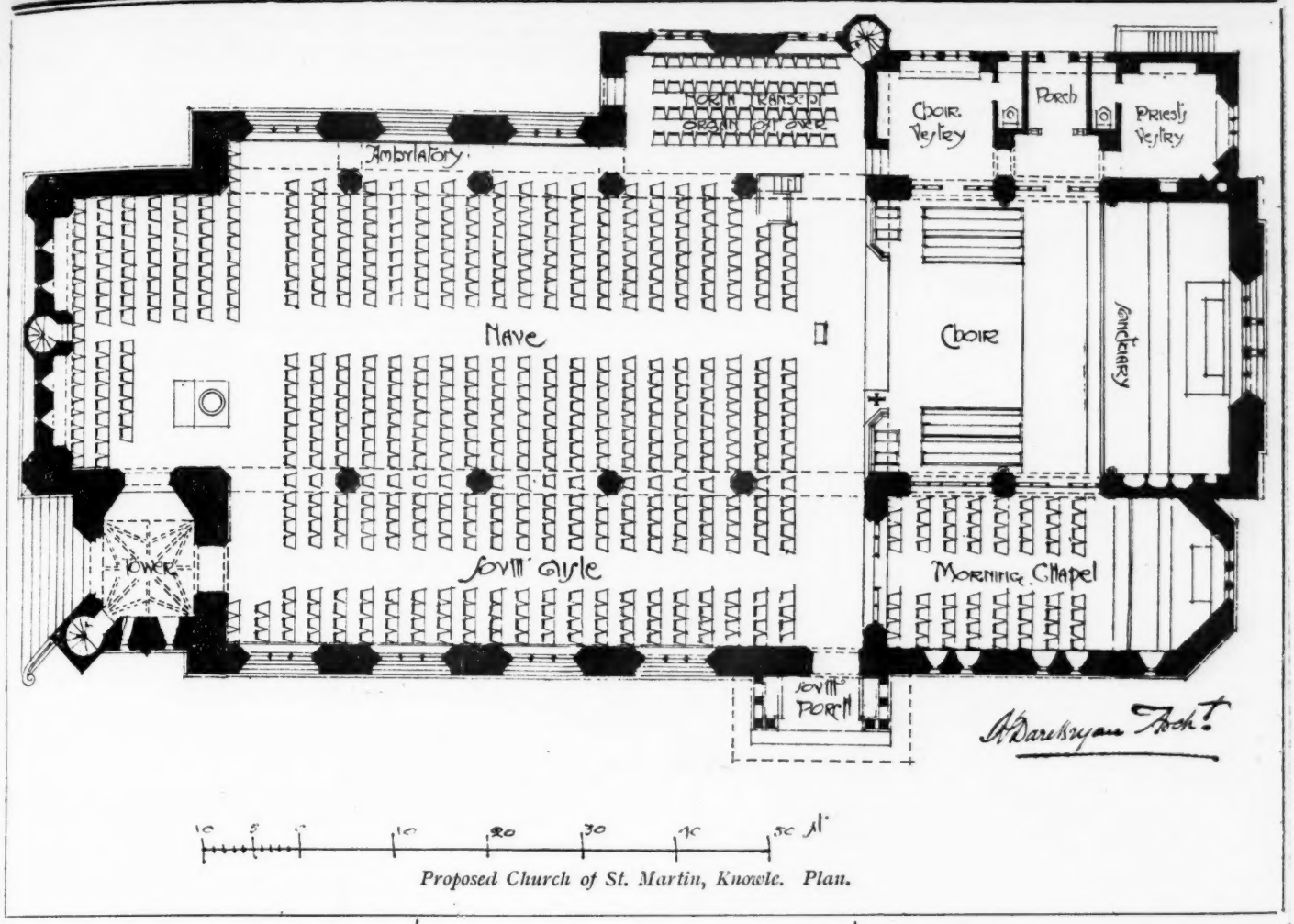
HOUSE, ROSECROFT-AVENUE, HAMPSTEAD.

THE site required that this house should be planned on the lines of an obtuse angle.

The elevations were carried out in red sand-faced bricks, with lifting sashes, the frames in external reveals with wood dressings, cornices to bay windows, &c. The roof was covered with red tiles and finished by a flat railed around to form a belvedere on account of a very fine view across the country.

This belvedere was reached by carrying up the back staircase. The plan indicates the position of the reception-rooms and offices. On the floors above are eleven bedrooms.

The house was built by Messrs. Boddy & Chapman from the designs of Mr. C. H. B. Quennell.



Proposed Church of St. Martin, Knowle. Plan.

PROPOSED CHURCH OF ST. MARTIN, KNOWLE, BRISTOL.

THIS design was submitted in a limited competition for one of the new churches under a scheme of church extension in the diocese of Bristol. In harmony with the mother parish church a rather "high" ritual was arranged for, one of the features being the particularly open view of the altar and the ambulatory for processions. Internally the church would be of local stone, with a green stained oak-panelled dado around walls of nave and piers; the spire was to be covered with oak shingles.

The drawing was hung at the Royal Academy, 1899. H. DARE BRYAN.

LYCH-GATE, SHANKLIN CHURCH.

THIS lych-gate, which was the gift of a resident of Shanklin, is composed of oak, with walling of local stone. Messrs. Cornish & Gaymer, of North Walsham, were the builders, and Messrs. Gillett & Bland, of Croydon, supplied the clock, the total cost being 260*l*. The architect was Mr. Arthur Blomfield, M.A.

IMPROVEMENTS AT THE COVENT GARDEN OPERA HOUSE.

THE circumstances under which opera is carried on in this country are necessarily peculiar, seeing that the Covent Garden Opera House is by no means a public building in the ordinary sense, but merely a structure erected on lease on the Duke of Bedford's estate, held for some forty or fifty years by a syndicate composed for the most part of wealthy amateurs. The principal interest of these wealthy amateurs is to have the musical representations they favour during that limited "run" of eleven weeks which happens to coincide with the fashionable season, and to have the arrangements for the performances made in such a way that the Opera House can also be used as a kind of social rendezvous. Most of the members of this syndicate hold their shares (or debentures) at a small nominal interest; or, in other words, the principal portion of the capital necessary for the opera has not been contributed for the purposes of gain, but solely with a view of making possible that which would be impossible if worked solely on commercial lines. Most of the shareholders must hence be looked upon as patrons rather than partners in our operatic enterprise.

Covent Garden Theatre is an old building, the principal walls of which have been standing for many years, although the internal arangements were materially remodelled after the notable fire of some forty years back. As is well known, the famous Opera House is badly located in an insalubrious neighbourhood, cramped in on all sides, and lacking such approaches as one would like to see associated with the Temple of Art.

When this House was taken over by its present owners some three years back, its defects were well known and attention had to be directed to such of the unsatisfactory features as might tend to hamper their scheme.

In the first place, the bad equipment of stage appliances, which were entirely out of date, seemed to prevent any semblance of an artistic production. The offices were so ill-placed, inaccessible, and unpractical in arrangement that the annual expenses threatened to be enormous. Many of the modern protective measures associated with a theatre were absent, and the confidence of the public might be shaken—in fact, when the syndicate took over the House there was merely an installation of gas for lighting purposes, whilst, of course, the electric light should long ago have been installed. In the auditorium, too, there was much to be complained of—the protruding stage was exceedingly ugly, to say the least of it; the orchestra, which was built so far into the auditorium, made the seating arrangements difficult. Further, the approaches, particularly to the stalls, were highly inconvenient, not to say dangerous. The approaches for carriage traffic, difficult in any case, were complicated by the fact that only one line of carriages could put down or pick up; whilst an additional exit used by the box-holders into Floral-street also left much to be desired.

Notwithstanding the financial position of the owners, which, as has already been explained, is based primarily on what we might term a patronage rather than a business basis, money has been procurable to assist the Directors in overcoming some of these defects, and it is the successful overcoming of the primary defects and difficulties that we now have to deal with, bearing the peculiar circumstances of the case in mind.

Firstly, the stage had to be remodelled, the actual structure raised and fully re-equipped; secondly, the entire offices, stores, &c., had to be remodelled; and thirdly, the auditorium with its approaches had to be improved. Lastly, innumerable installations, such as that of the electric light, had to be dealt with.

As far as this electric lighting was concerned, the directors proceeded with it from the very outset, as also with a number of minor improvements which were undertaken during the odd months intervening between the opera season and the ball seasons of 1899 and 1900, but the really important part of the improvement scheme only saw its completion during the last six months, when, by a bold stroke, it was decided that, ball season or no ball season, a winter of eight months was to see the final rejuvenation of the Opera House stage. The opera season of last year closed on August 3, 1900, and it required three or four weeks for the scenery to be cleared in the usual way. Work was, however, immediately commenced on the morning after closing. The first operation, comprising the alteration of the auditorium and the formation of a special corridor and some new entrances, was taken in hand contemporaneously with the second, which comprised the raising of the roof over the stage. The whole of these two sections of the improvement scheme were completed by October 15, the main roof alteration being ready on October 8.

The roof alteration comprised a span of 90 ft. to a width of 70 ft., at a height of 90 ft. above the ground, without any facilities for storage accommodation in the vicinity; the building had to be kept waterproof during the alteration; and the stage hands and mechanists were working below whilst the alteration was going on above. The scaffolding arrangements alone were most complicated, for a system of suspended scaffolding had to be applied, no vertical support being obtainable on the span of 90 ft. When the raising of the roof was completed, the "gridiron" had to be laid in a similar way from suspended scaffolding.

Almost contemporaneously with these alterations, a large fire-resisting curtain was being fitted in the proscenium opening, and the walls between stage cellar and auditorium being built. The curtain was put into position by October 15, so that Mr. Rendle was able to take up his tenancy for his ball season, and the first ball was actually given on October 26.

A large scene store at the back of the stage was taken in hand somewhat later than the first-named work, *i.e.*, in September, and was completed by November 1, 1900.

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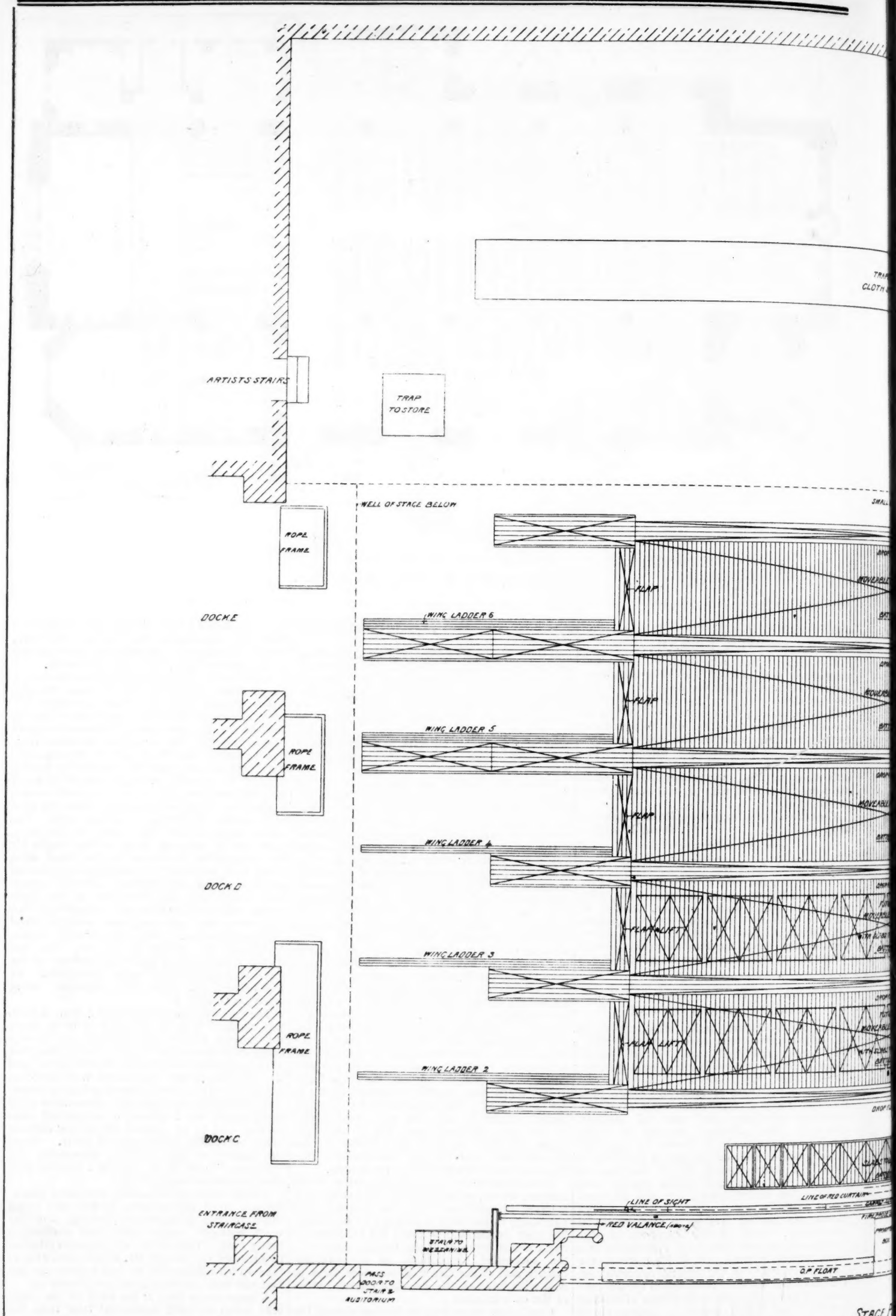
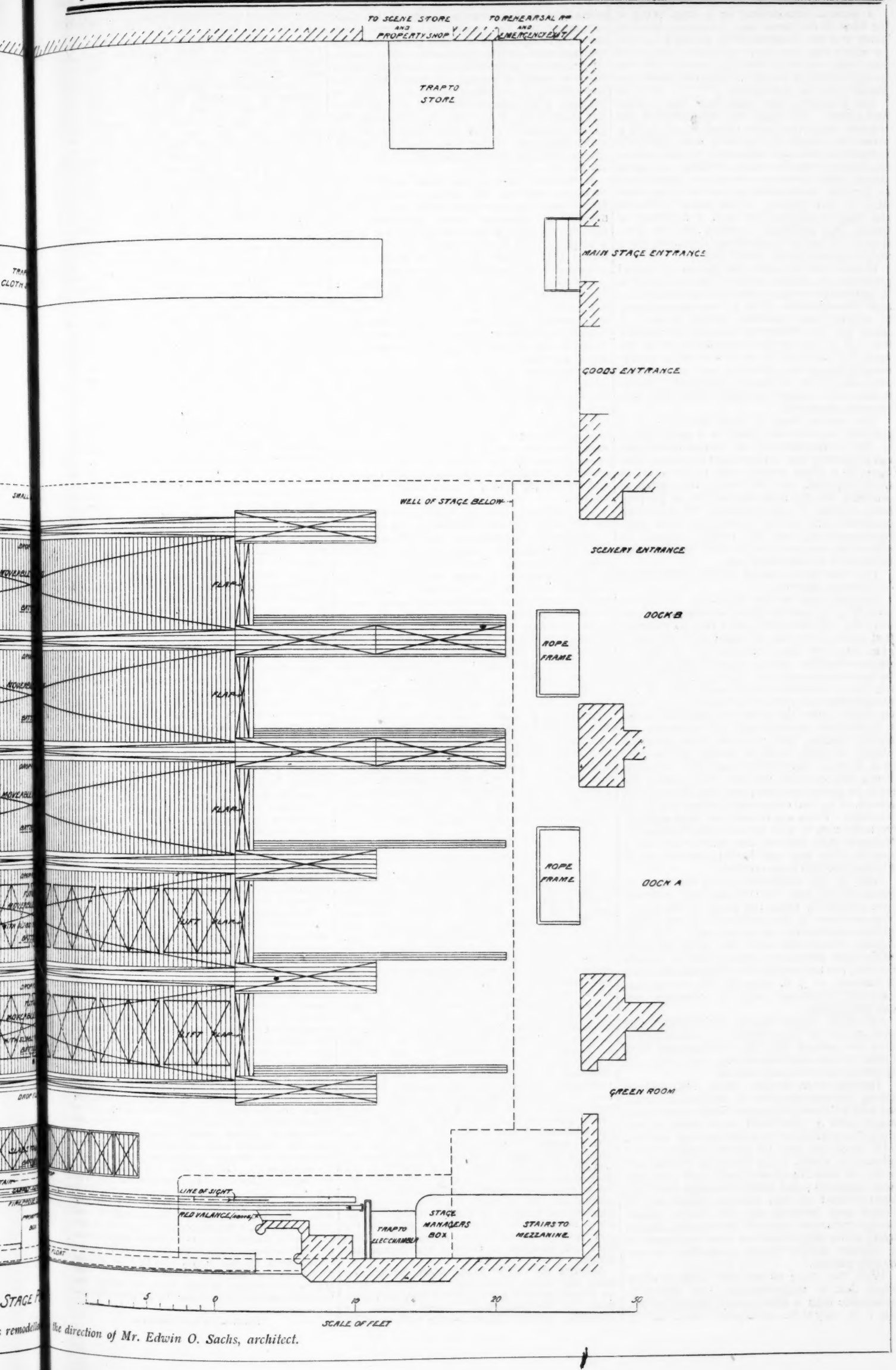


Plan of Stage, Covent Garden Theatre. As remodell



STAGE F

remodelled

the direction of Mr. Edwin O. Sachs, architect.

A general remodelling of a large wing at the back of the house was thereupon taken in hand, and was completed by January 1, 1901, by which time the new hydraulic lifts in the staircases were in working order, and the great removal of stores into their different new places could be undertaken.

On January 4 the stage floor was opened and gutted. The stage was reconstructed, and the new stage floor was closed in on April 4, when the whole of the work was practically completed, with the exception of some minor mechanical details which, trifling in themselves, were, however, of such a character as to prevent entire freedom on the stage until May 1. The gutting of this lower portion of the stage comprised by itself a wreckage of nearly 1,000 cartloads of timber and the erection of 150 tons of complicated steelwork and a very large amount of machinery.

It will thus be seen that the two principal problems, *i.e.*, that of raising the roof and that of gutting the stage, occupied respectively two and three months. The circumstances were, of course, very peculiar, owing to lack of space and the enormous quantity of scenery that had to be handled to make room for the men, and much of the work was of an exceptionally dangerous character and of considerable risk to the workmen employed. Nevertheless, not a single accident, much less fatal casualty, occurred.

The results, both in time and in lack of accident, must be attributed to a great extent to the co-operation of all parties concerned, not forgetting the artisans and labourers, who were, to a great extent, new to the class of work required, and Mr. Sachs, who acted as architect for the work throughout, is particularly anxious to acknowledge the assistance rendered him by the contractors and their representatives, and the cordial manner in which the various firms worked hand in hand under very trying conditions.

The new opera season actually commenced on Monday, May 13.

Turning now to the drawings which we illustrate, we see the Opera House as it stands after the improvements, and it will be observed that much that used to seem very ragged in plan has now been squared up in such a manner that the general scheme might almost be termed symmetrical. Thus, when we enter the main vestibule, which can now be approached by two rows of carriages—*i.e.*, private carriages under the porchway and cabs under a Bow-street awning—we find a double entrance leading into a broad stalls corridor, which formerly used to serve the purpose of a kind of lumber-room and general store. From this corridor we can either reach the stalls by going up some steps that are centrally placed, or by two entrances at either end of the corridor. There are hence now three exits for the stalls, and it will be seen that besides the ordinary exits through the grand vestibule, a special lobby and exit leading directly on to Floral-street has been created.

Next, in the auditorium itself, the apron of the stage has been cut off and the orchestra now practically takes the place of the apron. The members of the orchestra are no longer hidden underneath the stage, and as the wall against which they play has been equipped with light pitch-pine casing and a double flooring put underneath the orchestra, affording a vacuum of 3 ft. or 4 ft., the sound has naturally improved both in clearness and carrying power.

Of other improvements noticeable on the plan as far as the orchestra is concerned, it may be noticed that the management have better office accommodation, and that the lavatories have been improved.

Turning now to the stage, but without going into any question of mechanical detail, we find a thoroughly modernised symmetrical stage, with a good-sized back stage cut off from the auditorium by a fire-resisting curtain. The stage has now its proper height, which allows for cloths to be taken up without any kink; all superfluous wood and rope work has been removed; and whilst the stage itself has been divided up into sections which can be raised and lowered on the Sachs patent-bridge principle worked electrically, everything above stage level has been equipped on a counter weight system, according to the Brandt patents.

With the stage as we now find it, every effect that a stage-manager can desire is obtainable with a minimum of manual labour, but it is only to be anticipated that it will be some time before those in charge of the stage can appreciate the possibilities at their command, or comprehend what the systematic stage management of the Continent really means. At present, to judge from the performances of the first couple of weeks, one would think that the captain of a fishing smack was trying to manage a torpedo-catcher. Of course, there has been little or no time for rehearsal, but given mechanics rather than stage-hands, and stage engineers rather than stage-carpenters, things will, no doubt, gradually right themselves.

If we now turn to the back wing of the house we see that the storage arrangements have been entirely remodelled and a good supply of rehearsal room provided; and facilities for storage and rehearsals are at last available at the Opera House, and it is to be hoped that proper use will be made of the modernised accommodation provided.

Speaking generally, one might say that the Opera House has at last been brought up to date, and that it has been brought up to date after careful consideration of the Continental models, but without the slavish imitation which would be out of place where the circumstances are so peculiar.

Irrespective of the technical assistance obtained by the management, the members of the Syndicate, and particularly Lord de Grey and Mr. H. V. Higgins, may be considered to have done a great deal towards giving England better scenic equipment, for by one bold stroke London can at last boast of an example of stage mechanism which accords with the position of technical science in this country, and should serve as a pattern to other theatre owners.

The following are the contractors engaged by Mr. Sachs for the execution of the work:—

The general contractors were Messrs. Colls & Son (manager in charge, Mr. Collins; foreman, Mr. Dowse). The ironwork contractors for everything above stage level were Messrs. Lindsay, Neal, & Co., Limited; whilst the entire complicated structural and mechanical ironwork below stage level, including the stage "bridges" and lifts, was by Messrs. Drew-Bear, Perks, & Co. (manager in charge, Mr. Simco). The electrical power plant for the "under machinery" was provided by the Thames Ironwork Shipbuilding Company, Limited, of Blackwall (manager in charge, Mr. Flood); whilst the whole of the elaborate counterweight mechanism above stage level was provided by the well-known Berlin stage mechanist and contractor, Mr. F. Brandt, who personally attended to the installation of his appliances in London. The fire-resisting curtain was by Messrs. Merryweather & Sons, Limited, and the alterations in the auditorium by the Army and Navy Auxiliary Supply, Limited (manager in charge, Mr. Player).

OBITUARY.

MR. BRYDON.—We greatly regret to announce the death on Saturday last, after a short and painful illness, of Mr. John McKean Brydon, a Vice-President of the Royal Institute of British Architects, of No. 77, Newman-street, Oxford-street, and No. 31, Steele's-road, Haverstock-hill, N.W. Mr. Brydon was born in 1840 at Dunfermline, where he received his earlier education. In after years he became a leading and highly popular member of the Fife Association in London. When sixteen years of age he began his professional career, for which he had already displayed a marked aptitude, in Liverpool. Then, having served under Mr. Bryce, of Edinburgh, and Mr. Campbell Douglas, of Glasgow, he came to London as a member of the staff of Messrs. Shaw & Nesfield. He was elected a Fellow of the Institute in 1881, and a Vice-President for the sessional years 1899-1900 and 1900-1901; he was also appointed a member, 1900-1901, of the Art Standing Committee. He had been on the Council of the Institute during many years, taking an active part in its general work, and especially in that of the Art Standing Committee; indeed, it is not commonly known that when he first began to practise independently in London he devoted most of his powers to the designing of furniture. From that comparatively limited sphere he turned his attention to domestic architecture, and at length found his range in the planning and designing of public buildings. Meanwhile, he had made many visits to Italy for the purpose of increasing his knowledge of the traditions and examples of classical architecture and design.

Amongst the earlier works which brought his name and talents prominently into public notice we should mention the St. Peter's Hospital for the Stone in Henrietta-street, Covent Garden, in 1883-1884, and the Chelsea Vestry Hall, of which latter building we published drawings of the south elevation, with details and two sections, on May 2, 1885. In 1887 he exhibited at the Royal Academy the designs for the West Kensington Congregational church prepared by him conjointly with Mr. James Cubitt, and in the following year his competitive designs for the new Municipal buildings at Edinburgh, two elevations and two plans of which we had illustrated on June 18, 1887. On May 7, 1889, the present Queen Consort laid the first stone of his New Hospital for Women in Euston-road, St. Pancras. On November 9 of that same year, we published a perspective view of his design for the Ladies' Residential Chambers in Chenies-street, Bloomsbury. Of his other architectural works at and about that period we may cite the Village Hall erected at Forest-row, Sussex, in 1892, for Mr. H. R. Freshfield, of Kidbrook Park (May 20, 1893*), and, amongst country houses, "Lewins," in Kent, for Mr. Joseph Robinson; "Bournemead" at Bushey, Hertfordshire (May 20, 1893*); "Pickhurst," Surrey; the studio at the well-known French painter M. James Tissot's Château de Buillon, near Besançon, together with the enlargement and remodelling of that old château (June 15, 1895, and May 1, 1897*), in respect of which M. Vielle, of Besançon, acted as resident architect on the spot. Shortly after that time Mr. Brydon won the first premium, upon the award of Mr. William Young as assessor, in the competition for the Municipal Buildings at Bath, which were opened on June 11, 1895. His designs are published in our columns of January 9, 1892 (elevation in High-street and two plans), May 28, 1892 (perspective view), and July 10, 1897 (the Council chamber. The designs for the furniture of the Council chamber were prepared by himself. Mr. Brydon's architectural employment in that city extended over a period of some seven or eight years. His works there comprise (1) the Technical Schools (1895-6); (2) an extension, at an estimated cost of 25,200*l.*, of the Pump Room, of which his first premiated designs we illustrated on March 10, 1894 (north elevation, section, and two plans), June 9, 1894 (perspective views of the interior and exterior), and May 25, 1895 (exterior view, revised design, proposed treatment of the interior of the Roman bath, plan of additions to pump-room, and plan of pump-room ground floor). His designs as ultimately carried out for the Mineral Baths Committee, after consultation with Mr. Alfred Waterhouse, were in some degree modified as compared with those he had submitted in the competition, less prominence being given to the concert-room, the other accommodation being reduced in extent, and the *scholæ* only of the old Roman bath being covered over; (3) the Victoria "Diamond Jubilee" Art Gallery and Library, opened in May of last year—see our illustrations of May 7, 1898; and (4) his architectural treatment of the Roman bath—see our illustration (from a photograph), October 23, 1897. The Victoria Art Gallery at Bath completes an imposing block, which embraces the Municipal Buildings, the Courts of Justice, the City Hall, the Technical Schools, and the Reference Library. In a competition held ten years ago for the rebuilding of the Whitefield Chapel in Tottenham Court-road, Mr. Brydon gained the second premium for his designs upon the report of Professor T. Roger Smith. In the competition (May, 1898) for the Taunton Town Hall he was awarded the second premium of fifty guineas, upon the adjudication of Mr. Mountford as assessor; and in that for the New Free Library, Wolverhampton, he won the second premium, Mr. Alfred Waterhouse being the assessor (February, 1898).

His successful work at Chelsea was followed by the selection of his plans and designs for the South-west London Polytechnic in Manresa-road, Chelsea, of which the then Prince of Wales laid the foundation-stone on July 23, 1891 (March 21, 1891, perspective view with two plans*), and by his winning the first premium for the Free Public Library (June 8, 1889, front elevation in Manresa-road, with plan, and January 24, 1891, perspective view and two plans),* opened on January 21, 1891. To the Free Library he added in 1899 the Queen Victoria Gallery, erected after plans which provide for its enlargement hereafter. Mr. Brydon entered the competition for the West Ham Technical Institute and Free Library, his design for the public library portion of which we published on August 1, 1896. He prepared the plans and designs for the science laboratories at the London School of Medicine for Women in Handel-street, Brunswick-square, to which he subsequently added another story (1897-9). Last year Mr. Brydon was nominated, with five other architects, to furnish competitive designs to the Corporation of London for the rebuilding of the Sessions House and Central Criminal Courts in the Old Bailey, on which occasion Professor Aitchison was appointed assessor. The designs which Mr. Brydon prepared, we understand conjointly with Mr. J. S. Gibson, are illustrated in our number of August 25, 1900. In 1898, being one of the eight architects who were recommended to the Government by the Royal Institute of British Architects for the new public offices, he was appointed architect of the block to receive the Local Government Board and the Board of Educa-

*Illustrations in the *Builder*.

tion, for which a site has been cleared in Parliament and Great George streets. Mr. Brydon was engaged upon that, his most important work, at the time of his death, and it is painful to recall that Mr. Young, who at the same time was appointed architect for the War Office block in Whitehall, was similarly deprived through death from seeing the fruition of his labours. Mr. Brydon's designs are illustrated in the *Builder* of March 25, 1899 (Parliament-street front and plan), and May 5, 1900 (the Circular Court), and were on view in the Royal Academy Exhibition, 1900. In February, 1897, Mr. Brydon was nominated by Professor Aitchison, R.A., as the then President of the Institute, for the post of assessor of the competitive designs for the Technical College at Sunderland. He also acted in that capacity in respect of the Southend-on-Sea Municipal Buildings competition, awarding the first premium to Mr. H. T. Hare (1898). He was author of several essays and treatises upon professional subjects, including the following papers, reported *passim* in our journal :—On "The English Classic Revival of the Seventeenth and Eighteenth Centuries" (February 23 and March 2, 1889*) and "The English Renaissance of the Eighteenth Century" (February 14, 1891*), both read at meetings of the Architectural Association; "Public Libraries" (February 25, 1899*) and "The Work of Professor Cockerell, R.A." (May 26, 1900*), both read at meetings of the Institute. He was invited to read the last-mentioned paper to a meeting of the Edinburgh Architectural Association in March of the current year.

GENERAL BUILDING NEWS.

CATHOLIC CHURCH, LIVERPOOL.—On the 26th ult. the new church of Our Lady of Lourdes and St. Bernard's, the foundation stone of which was laid by Bishop Whiteside on June 17 last year, was opened. The church, which has been built next to St. Bernard's Schools, on a plot of land between Kingsley-road and Alt-street, consists of a nave and aisles, with baptistry and porches at the western end, and a chancel, with two chapels, sacristy, &c. The nave, which is 83 ft. long, with a breadth of 48 ft., consists of five bays, in four of which the centre space is divided from the adjoining aisles by an arcading with stone shafts and moulded caps and bases, the fifth bay being occupied by the organ gallery. The body of the church is lighted by four-light traceried windows in each bay, and by two similar three-light windows, with a circular window above in the western gable, which adjoins Kingsley-road. The principal elevation faces Kingsley-road, in the centre of which is a niche filled by a statue of the Virgin to whose honour the church is dedicated. Two entrance porches, one at either side of the west wall, extend the width of the front to 77 ft. The chancel, square-ended and flanked by a chapel on each side, is lighted by two side windows, and by a rose window in the gable, the latter being filled with stained glass, while a second window, representing Our Lord, with St. Bernard and St. Mary Alacoque, has been placed in the north chapel. The building is constructed of St. Helens grey bricks, with facings of red Runcorn stone to the windows and doors. The roof, which is open to the ridge inside, and panelled between the principals with moulded ribs, is covered with Welsh slates. The floor is of wood, with the exception of the baptistry and porches, which are laid with brown tiles. The church will be heated by means of hot-water radiators, and the building has been provided with electric light. The cost of the fabric is about 5,500*l.* The building was done by Messrs. Roberts & Robinson, contractors, Liverpool, from designs and under the superintendence of Messrs. Pugin & Pugin, architects, of London and Liverpool, for whom Mr. M. Shanley has acted as clerk of works.

CATHEDRAL, BRISBANE.—The foundation-stone of the new cathedral at Brisbane was laid by the Duke of Cornwall and York on the 22nd ult. The designs were prepared, it is stated, by the late Mr. J. L. Pearson, R.A., and will be carried out by Mr. F. L. Pearson, in conjunction with Mr. W. D. Caröe. The complete design, of which the probable cost will be 100,000*l.*, and which will provide 3,000 sittings, will not be carried out at present for want of funds, but it is proposed to begin with the choir and transepts to accommodate 1,200 worshippers. This will cost 35,000*l.*

TRURO CATHEDRAL.—Mr. J. H. Dennis has increased from 10,000*l.* to 15,000*l.* his gift for the building of the central tower, to be known as the Victoria Tower, as a memorial of the late Queen. Mr. Pearson, the architect, has obtained an estimate for the erection of the tower, which, it appears, can be carried out at a cost somewhat less than the sum which Mr. Dennis undertakes to subscribe.

RESTORATION OF ST. JOHN'S CHURCH, SUNDERLAND.—The Church of St. John, in the east end of Sunderland, was re-opened on the 15th ult. after having undergone restoration. The work of restoration has apparently included in its scope everything except the shell of the building, the walls having required but little attention. The most noticeable of the alterations has been the removal of the three old galleries which ran round the church, and which, in the end, were in an exceedingly tottering condition. The effect of this change means that, whereas the building would formerly hold about 2,000 persons, it is now capable of accommodating something like 600. The antiquated high-backed pews have disappeared, giving place to benches of a modern description. On the old-fashioned pews there were brass plates, on which were inscribed the names of the families who occupied them Sunday after Sunday. These interesting relics are to be placed together on one of the walls of the church. Perhaps the most interesting relics that have been replaced are the oak pulpit and the organ. A great deal of care has been concentrated on the alterations in the apse of the church, the beautiful chancel being now provided with new choir stalls. By the erection of two rows of oak pillars, the edifice has been divided into aisles. The walls have been treated by the painters in a way that harmonises with the general design of the scheme; the ceiling has been subjected to a thorough renovation; and in various other minor directions have renewals and improvements been carried out. The restoration has been executed under the direction of Messrs. Hicks and Charlewood, of Newcastle. The builders employed were Messrs. Scott, of Sunderland.—*Newcastle Journal.*

U.F. CHURCH, ABERDEEN.—A new U.F. church is to be erected at the corner of King-street and Urquhart-road, Aberdeen. Messrs. D. & J. R. M'Millan, Aberdeen, are the architects.

RESTORATION OF FRENZE CHURCH, NORFOLK.—Frenze Church, about two miles from Diss, has just been reopened after restoration. An entirely new oak roof has been constructed, a block floor with concrete bed laid, the pulpit and reading-desk restored, and slabs on the floor have been taken up and rearranged. An altar-stone has been taken up in the body of the church and now forms the Communion table. Other improvements include a new altar-rail and a new entrance door. Messrs. A. R. Barker & Son, Strand, London, were the architects, and the work has been carried out by Mr. William Limmer, builder, Dickleburgh.

RESTORATION OF ELKESLEY CHURCH, NOTTINGHAMSHIRE.—The Duke of Newcastle, who is lay impropriator to the living of Elkesley, is shortly, it is stated, to restore this church at an outlay of 1,400*l.* The plans prepared by Mr. Thompson, of London, have been approved. The restoration will include a new roof for both the nave and chancel; new chancel arch; the whole of the nave and chancel will be panelled in oak, prolongation of north aisle west to the extent of the tower; a new north and south porch; the greater part of the north aisle will be rebuilt; a window will be inserted in the east end of the north aisle; the vestry enlarged; and a new organ-chamber built.

UNITED FREE CHURCH, CULTS, N.B.—It is proposed to erect a new United Free church at Cults from the plans of Messrs. D. & J. R, M'Millan, architects, Aberdeen. The church is Gothic in design. The gable of the church faces the public road, with a tower on the west. In this tower is situated the main doorway, and there is another doorway leading to the staircase to the east of the gable. The church is cruciform in plan, having a centre seating area, two side seating areas, and, in addition, the transepts. There is also an apse behind the pulpit, where provision is made for an organ. The church is seated to accommodate rather over 600. Immediately adjoining the pulpit is situated the vestry. To the rear of the church is situated the hall accommodation. It consists of a hall, 30 ft. by 26 ft., with session house adjoining, 26 ft. by 19 ft., the latter being so arranged that for large meetings it can be thrown into the large hall. There is also a room provided as a ladies' workroom, 26 ft. by 18 ft. 6 in., while a tea kitchen has also been provided. The cost of the buildings is estimated at about 4,000*l.*

RESTORATION OF SKEFFLING CHURCH, YORKSHIRE.—The parish church at Skeffling was reopened on the 17th ult. after restoration. The work was carried out under the guidance of Mr. F. S. Brodrick, of Hull.

WESLEYAN SCHOOL-CHAPEL, SHIPLEY.—Memorial-stones were laid recently in connexion with the erection of a school-chapel for the Wesleyan denomination in Shipley. Mr. G. F. Danby, of Leeds, is the architect for the school-chapel. His plans provide for a central assembly-room, 58 ft. long by 34 ft. wide, which will be capable of seating 400 persons on the ground floor. A gallery extending round three sides of the building will seat 250 more. At one end will be the rostrum and choir gallery. From the ground and gallery floors access will be obtained to twelve classrooms. There will also be other apartments. All the internal woodwork will be of pitchpine, and the building will be of pitch-faced local wallstones. For heating purposes the low-pressure hot-water system is to be adopted. The cost of the structure is estimated at 3,000*l.* The principal contractors are Messrs. Deacon & Son, Shipley, and Messrs. H. & T. Riddiough, Cross Hills.

HARRYVILLE NEW PRESBYTERIAN CHURCH, BELFAST.—On the 21st ult. four foundation stones were laid for the new Presbyterian church in Casement-street, Harryville. The style of the new building is Gothic. The building will be 85 ft. by 44 ft. There will be a large gallery at the end of the building, and provision is made for extending the capacity of the church in future by galleries at either side of the building. Provision is made for a committee-room, session-room, cloakroom, library, and lavatories. The whole of the interior of the church will be of pitch pine, and particular attention has been paid to heating and ventilation. The windows are to be fitted with approved wrought-iron ventilators, and the work has been entrusted to Messrs. Ward & Partners, Belfast. Mr. W. C. Gault is the builder; Mr. A. Boyd is the architect.

OXFORD-PLACE CHAPEL, LEEDS.—The trustees of Oxford-place Chapel, Leeds, are about to proceed with the erection of new buildings and a tower adjoining the present structure, and occupying the vacant plot that exists to the north and fronting the Town Hall. This was part of the original building scheme, only that in the place of a projected Synod Hall and classrooms it has been decided to erect a series of office chambers. The tower will rise to a height of 120 ft. At the foot of the tower there will be an entrance vestibule, and the structure is to come forward to the line of the chapel steps, and be connected with the chapel building by what may be termed a curved sweep. At the back an addition is to be made of an octagonal-shape room adapted for the purposes of a girls' club. There will be three floors of offices, and the material used in the erection of the buildings will consist of brick faced with stone. The work is in the hands of Mr. G. F. Danby and Mr. William H. Thorp, architects, of Leeds.

RESTORATION OF PARISH CHURCH, MELKSHAM, WILTSHIRE.—In connexion with the restoration of the parish church at Melksham, a figure of St. Michael has been placed in a niche over the north door. The figure is of Painswick stone and was carved by Messrs. Harry Hems & Sons.

TRINITY PRESBYTERIAN CHURCH, REDLAND, BRISTOL.—On the 21st ult. the foundation-stones were laid of the new Presbyterian church which is being erected at the far end of Cranbrook-road, Redland. The plans have been prepared by Messrs. P. Munro & Son, of Bristol. The church, which is designed in the Perpendicular style, will be built with red Pennant stone and Bath stone dressings, and will contain nave, transepts, aisles, chancel, minister's vestry, choir vestry, church parlour, lecture-hall, classrooms, and caretaker's residence. The corridors, passages, lavatories, and part of the chancel will be laid with encaustic tile pavement, and the chancel steps will be of Red Wilderness Forest of Dean stone. The floor of the church and the whole of the subsidiary buildings will be laid with pitch-pine blocks. The roofs will be covered with red Broseley tiles. The pews will be of selected pitch-pine, and open, and the doors of English oak. The roofs will be open-timbered in pitch-pine, the nave having hammer-beam principals, all the main timbers being moulded. The roof of the chancel will be waggon-shaped, with moulded ribs. The glazing throughout will be in tinted cathedral glass. The heating arrangements for the church and subsidiary buildings will be by means of hot water, low-pressure system, with pipes and radiators. The church will be lit with electric light, and will have seating accommodation for between 600 and 700 worshippers. The site is on the corner of the roadway opposite to the New Church and close to St. Katharine's Church.

LABORATORIES, NONCONFORMIST SCHOOL, BISHOP STORTFORD.—At the Nonconformist Grammar School at Bishop Stortford new laboratories have just been added at a cost of 1,500*l.* Mr. H. G. Ibberson, Hunstanton and London, was the architect, and Messrs. J. L. Glasscock & Sons, Bishop Stortford, were entrusted with the building. There are a physical laboratory, chemical laboratory, and lecture-room, each about 30 ft. by 20 ft., also a preparation room and stores. They are fitted with fume closets, special tables, and apparatus. The building is of red brick, with stone dressing. The engineers were Messrs. Ashwell & Nesbit, Bedford-row, and the fitters Messrs. Hammer & Co., the Strand.

SCHOOL, PRESTON.—The corner stone has just been laid of Plungington-road new school, Preston. Plans of a new school capable of accommodating 300 children, on the west side of Plungington-road, have been prepared by Messrs. Myres, Veevers, and Myres. The total cost is estimated at 2,400*l.* The present structure comprises a schoolroom, 66 ft. by 26 ft., to accommodate 190, and to be divided by moveable partitions to form classrooms. There are also a classroom to hold sixty and a babies' room for a similar number. Adjoining these will be a mistress's room, cloak and lavatory rooms, &c. The materials employed in the building of the school are brick and stone for the outside, the roofs being of open timber. All the rooms will have a glazed brick dado about 4 ft. high. The contractors are Messrs. T. Croft & Sons, Preston.

LIBRARY, LIVERPOOL.—A new branch library is in course of erection at the corner of Windsor-street and Upper Parliament-street from designs by Mr. Thomas Shelmerdine, the Corporation Architect and Surveyor. The principal front elevation and main entrance will be in Windsor-street. Leading from the main central hall on the right is the ladies' reading-room, 56 ft. 6 in. by 30 ft. On the left is the general or men's reading-room, 66 ft. by 30 ft. In the centre of the building will be the lending department and book store. There will be

* Reported in the *Builder*.

upwards of 25,000 volumes of books in this branch library. From the vestibule there will be a staircase, by which access will be obtained to the basement, where is situated the boys' reading-room, 47 ft. by 30 ft. In addition to the public accommodation above described there will be a mezzanine floor, which will provide accommodation for books, for the repair of books, and for the staff. On the ground floor will be the librarian's-room, and on the first floor an assistants' common-room. The entire building will be of fireproof construction. The main walls will be of red wire-cut Ruabon bricks, with Cefn stone dressings, and the roof will be covered with Cumberland green slates. The style adopted is the English Renaissance. The erection of the building, the contract price for which is upwards of 12,100*l.*, has been in progress now some weeks.

INSTITUTE, WALWORTH.—The new buildings in Larcom-street, Walworth, for St. John's Institute, have just been completed. There are four floors and a basement in the building. In the basement is the store for furniture required for concerts or lectures as well as the heating chamber and apparatus. On the ground floor there are the men's gymnasium, the boys' gymnasium, and boys' reading-room, with an entrance-hall and fireplace. On the mezzanine floor is the gallery to the large gymnasium, to be used as a dressing-room, with shower-bath, lavatories, and secretary's gallery attached. The first floor contains a meeting-room for allied clubs, a reading and writing-room, and a large billiard-room. On the second floor are twelve cubicles 10 ft. long by 5 ft. wide for resident members, each being lighted by a separate window, a bath-room, and separate shower-bath, with a range of lavatories, storeroom, boxroom, &c., and a dining-room. The kitchen and caretaker's rooms are placed in the attics. There is a lift serving all the floors, and hot and cold water is laid on to the sinks and lavatories on each floor. The furniture is made in oak from designs prepared by the architects, Messrs. Dunn & Watson, of Lincoln's Inn-fields. All the rooms and passages are lighted by electric light. The building has a frontage to Larcom-street of about 66 ft., and the front wall is faced with salt-glazed bricks of a warm colour up to the gymnasium windows, over which there are balconies projecting from the billiard-room floor. Above this the walls are faced with yellow stocks with stone dressings. The contractor is Mr. John Marsland, Walworth.

GOLF CLUB-HOUSE, BILSTON, WOLVERHAMPTON.—A club-house for the Wolverhampton District Golf Club has been erected on the club's ground at Bilston. The building has two stories, and was designed by Messrs. Johnson & Baxter, of Wolverhampton. Messrs. Hickin & Sons, of Willenhall, were the contractors.

CRICKET PAVILION, DUNFERMLINE.—A new pavilion for the Dunfermline Cricket Club has just been opened at Lady's Mill. Mr. T. Hyslop Ure was the architect, and the following were the contractors:—Building, Mr. James Stewart; joinery, Messrs. Mitchell & Kinghorn; tile and rough casting, Mr. John Robertson; plumbing, Messrs. Jas. Inglis & Son; plastering, Mr. William Ure; painting, Mr. Andrew Wardlaw.

WORKING MEN'S INSTITUTE, NANTYMOEL, GLAMORGANSHIRE.—The memorial stones have just been laid of a working men's institute to be erected in that part of Nantymoel known as Pricetown. The hall will seat 1,000 persons and the cost will be about 4,000*l.* Mr. Jacob Rees, of Pentre, is the architect, the builder being Mr. Jenkin Phillips, of Nantymoel.

BUILDING IN ARBROATH.—The building trade in Arbroath has been fairly busy during the past year. A large number of plans for new buildings and alterations and additions to existing buildings have been approved and passed by the Commissioners. These include the new joint epidemic hospital; additions to Messrs. D. Fraser & Sons' engineering works; new electric power station in John-street West; reconstruction of Burnside Works; warehouse additions to the Dundee and Arbroath Confectionery Company's premises; and the reconstruction of the Star Hotel in High-street. During the year forty-nine different plans for new buildings and alterations or additions to existing buildings have been presented to and passed by the Commissioners Among the principal improvements carried out by the Commissioners during the year are the blocking of Helen-street, the alteration of the roadway at the West Links old tollhouse, and the widening and taking off a sharp curve in Montrose-road.

MEMORIAL COTTAGE HOSPITAL, ST. ANDREWS.—The contracts for the new memorial cottage hospital, which is to be built on a site at Abbey Walk, have been fixed as follows:—Mason, Mr. Thomas Liddel; joiners, Messrs. T. Harris & Son; plumber, Mr. J. M. Morris; plasterer, Mr. A. R. M'Pherson; slater, Mr. Thomas Black—all of St. Andrews. The architect for the building is Mr. C. F. Anderson.

EMPIRE HOTEL, BUXTON.—Messrs. Spiers & Pond, Limited, have erected at Buxton an hotel called the Empire. The hotel is built upon a site in close proximity to the Pump Room, and stands in its own garden and grounds of twelve acres. The hotel possesses accommodation for upwards of 300 guests, and contains dining-hall, banqueting and ball room, a drawing-room, and numerous other apartments, a spacious hall, and lounge. The architect of the hotel is Mr. Thomas Garner, and the builder is Mr. John Parnell, of Rugby. The furniture and decorations have been carried out by Messrs. Smee & Cobay, of London, W.

POLICE COURTS, BRISTOL.—Bristol Police-courts are to be extended from plans prepared by Mr. Henry Williams, architect. The extension of the courts has been made possible by the acquisition of properties on the north of the present building and at the rear of it. The same chief entrance will be used from Bridewell-street, but the general offices will be on the right hand, and the present general offices will become the office of the magistrate's clerk, &c., a separate entrance being made from the street to the general offices. In the basement there will be ample cell accommodation for males and females, with attendants. Offices will be provided on the first floor, with waiting-rooms; and the second floor will be occupied by the caretaker. On the ground floor two new courts will be provided—a large one, 41 ft. 6 in. by 30 ft., and a small one, 28 ft. by 25 ft.—while the present large court, which is 37 ft. 6 in. by 27 ft., will remain available. The existing small court will be used by the magistrates for an assembly-room. There will be a public waiting-room beyond the principal new court, and easy access will be afforded by corridors and doors to all parts of the building. The new courts will be wainscotted in oak, and the fittings and lighting will be similar to those in the present large court. The extension of the frontage will be made to harmonise with the existing elevation.

VICTORIA ARCADE, LOWESTOFT.—The Victoria Arcade at Lowestoft, which has been built by Mr. George Fitt upon the site of the old Baptist chapel and schools in the London-road, has just been opened. The building contains fourteen shops, with stockrooms over, four suites of offices, an assembly-room, cloakroom, and ladies' and gentlemen's lavatories. There is also a public landing and balcony on the first floor facing London-road, on each side of which is a refreshment buffet approached by a wide staircase from the Arcade. The building has been erected for Mr. George Fitt from designs prepared by Messrs. George Fitt & Co., Limited, architects and surveyors, Norwich and Lowestoft. The brickwork has been done by Mr. E. C. Pipe, of Lowestoft; the constructional ironwork by Messrs. Brooks, Lowestoft; the shop fronts and joinery by Messrs. Lambert Bros., Kirkley; and the painting and glazing by Mr. R. T. Peck, Lowestoft. The whole of the glazed bricks were supplied by Messrs. J. Woodward & Sons, Limited, Swadlincote; the Arcade roof by the Pennycook Glazing Company, Glasgow; the electric lighting by Messrs. Bush & Dryburgh, Lowestoft; and the whole enclosed by wrought-iron gates supplied and fixed by the B. and S. Folding Gate Company, London. Mr. W. Forder was clerk of works.—*Norfolk News.*

SANITARY AND ENGINEERING NEWS.

EXTENSION OF CALEDONIAN STATION, GLASGOW.—The Caledonian Central Station at Glasgow is to be enlarged. A description of the scheme was recently given in the *Glasgow Herald*. According to this, the extension will involve the construction of a new bridge over the Clyde. This bridge will be one of the broadest in the country. It will take nine additional lines of rails, which, with the four on the present bridge, will bring the total to thirteen. North of the Broomielaw, up to the south side of Argyle-street, the station will be widened to the extent of 175 ft., making an average width of 260 ft., while north of Argyle-street the station will be extended westward until it comes to the building line of Hope-street, making the main part of the station under cover about 340 ft. in width, as against 210 ft. in the present station. The nine lines of rails are furnished with an equal number of platforms, varying from 15 ft. to 22 ft. in width. When the reconstruction is completed there will be thirteen platforms from 22 ft. to 30 ft. wide. The platforms now vary from 350 ft. to 680 ft. in length; under the new scheme they will run from 426 ft. to 900 ft. On the east side parallel platforms will extend almost to Ann-street, but on the west side the platforms will be carried practically as far south as the north line of the Broomielaw, where there will also be platforms for fish, fruit, and milk traffic extending to the edge of the river. A greater circulating area for passengers at the end of the platforms will be provided. This space will be 2,948 square yards in extent; the present one is only 550 square yards. At present only 100 carriages can be got into the station at a time, but when the extension is completed there will be standing room for 200 carriages. The area of the left luggage office will be 1,400 square yards as against 400 in the present station. The size of the parcels office will also be increased from 500 square yard to 2,300 square yards. This department will be constructed underneath the station at the level of the street, with accesses from Hope-street, where a large parcels hall will be situated in place of the existing premises in Union-street. There will be communication with the several passenger platforms by means of hoists, of which there will be eight. A feature of the new station will be a cab rank about 1,000 ft. long, with a platform at each side 800 ft. in length and 20 ft. wide. The entrance to the cab rank for empty cabs is by an inclined access from Hope-street. The booking offices will remain the same in number as at present, but they will be greatly increased in size, more particularly the Union-street office, which will occupy a more important position than at present, and will be one of the chief offices in the station. It will be situated at the north end of the company's property in Union-street, where an access to the station will be given by means of a staircase 18 ft. in width. The intention of the company is to reconstruct all their Union-street property. It has a frontage to the thoroughfare of 200 ft., and a building has been designed by Mr. James Miller, the architect of the contemplated extension of the Central Hotel. The new property will consist of shop and office premises, about six stories in height. At the level of the platforms the rooms will be set apart for the use of the travelling public. There will be waiting and refreshment-rooms and other accommodation, and behind them offices will be constructed facing the street. The existing restaurant on the street floor will be restored. The new portion of the station is to be covered with an arched girder roof, except at the part crossing Argyle-street, where, in order to meet the wishes of the Corporation, it will take the form of a low verandah merely sheltering the platforms, and leaving the lines of rails open to the weather. With this break the arched roof will extend from the hotel at the north end of the station to the south side of Ann-street. The bridge over Argyle-street will have a screen on each side 18 ft. high, constructed of iron, timber, and glass. In carrying out the roof work the west wall of the present station will be taken down and the new roof supported on iron columns. The bridge over the river will be 270 yards in length over all, with an average breadth of 40 yards, and will stretch from the north side of the Broomielaw to the south side of Clyde-place. The substructure of the bridge will be of masonry, the piers on the quays and in the river being founded on monoliths constructed of steel caissons built up with concrete and brickwork. The monoliths are to be founded on sand and gravel at a depth of 30 ft. below the bed of the river, the caissons being sunk into position by the pneumatic process. The piers of the bridge will be built of granite ashlar, hearted with blue brickwork. The superstructure is to be of wrought steel, the principal spans, five in number, commencing at the Broomielaw being in the clear 97 ft., 146 ft., 185 ft., 164 ft., and 61 ft. respectively. These will be spanned by steel girders having parallel flanges, and placed at about 12 ft. centres. The main girders of the larger spans, those across the river, will be upon webbed girders; those over Clyde Place and the Broomielaw will be plate girders. Above these girders will be an ornamental lattice parapet girder thrown out and supported by ornamental brackets from the main carrying girders, and the bottom flanges of the parapet girder will be encased and finished in ornamental cast iron. The new bridge will differ from the old one alongside in this particular, that the trains will run on the tops of the girders in place of at the bottom. This enables use to be made of all the available space for rails, and it will be possible to have points, crossings, connexions, and junctions of all kinds on the bridge. Externally, the piers will be of ornamental granite ashlar, finished in towers rising above the parapet on the two centre piers. The end piers will be finished at a somewhat lower level, the contour of the line of the tops of the towers being on the line of an arc of a circle. The existing station at Bridge-street will also, to some extent, be remodelled, and the proposal at present is that there should be eight lines running through it in place of four, as at present. It is further intended that the approach lines shall be improved by laying two additional lines of rails through Eglington-street Station by the construction of another tunnel under Eglington-street. A Bill for this work has been lodged in Parliament, and has already passed the first House as an unopposed measure. The extension of the Central Station Hotel will be made down Hope-street, in the direction of Argyle-street, and will not interfere in any way with the plan of the station, as the access for the empty cabs will be made beneath the building. In order to obtain ground for the extension, a large quantity of shop, warehouse, and office premises has been cleared away. The engineer for the undertaking is Mr. Donald A. Matheson, engineer-in-chief of the Caledonian Company. The contract for the bridge and relative works has been undertaken by Messrs. Sir William Arrol & Co., Limited, with whom are associated Messrs. Morrison & Mason, Limited. The substructure of the station, from Broomielaw to Argyle-street, is being made by Messrs. James Goldie & Son, and the carriage entrance and substructure of the hotel extension by Messrs. P. & W. Anderson. The work has been begun, and it will probably be finished in two years and a half.

NEW RESERVOIR, LLANELLY.—The Llanelly Urban Council are constructing an additional reservoir at a cost of 67,000*l.* The Surveyor reported progress to a special meeting of the Water-works Committee recently, and subsequently the members inspected the work. The contract provides for completion of the work in July of next

year, but the contractor, Mr. Louis P. Nott, is prepared to bring it to a finish in March for a consideration of 1,000*l.*

ABERDEEN WATER SUPPLY.—Aberdeen Town Council have just appointed Mr. Charles Hawksley, M.Inst.C.E., Westminster, to report as to the best source of a new or additional water supply for the city.

WATER SUPPLY, WALLASEY, CHESHIRE.—On the 21st ult. Mr. E. A. Sandford Fawcett, an inspector to the Local Government Board, attended the public offices, Church-street, Egremont, to inquire into an application by the Wallasey Urban District Council for sanction to borrow 17,500*l.* for water-supply works, and an application by the Liverpool City Council for permission to borrow 146,000*l.*, the estimated cost of laying a water-main from Hatchmere to the outskirts of the Wallasey district. Applications by the Wallasey Council to borrow 27,225*l.* for the construction of a reservoir at Gorse Hill, New Brighton, and 3,450*l* for the formation of a street from Earlston-road to Sea View-road, Liscard, were considered also. Evidence as to the water-supply scheme was given by Mr. John Henry Crowther, engineer to the District Council. Several persons were heard in opposition, one opposing on behalf of a local water company. The application for a loan for the construction of a new street was then considered, evidence being given by Mr. H. W. Cook, the solicitor to the Wallasey District Council.

STAINED GLASS AND DECORATION.

HAMMERSMITH SYNAGOGUE.—The work of decorating the interior of the Hammersmith and West Kensington Synagogue has just been carried out in accordance with a scheme prepared by Mr. Percy L. Marks, architect, who has superintended the execution of the work. The walls generally are of a light green, separated by a suitable band from the dado, which is painted a warm brown. The strings, cornices, arches, &c., are finished cream colour and the soffits white. The panelled fronts to gallery are painted in dull green for the framing, with pink mouldings and cream panels. The woodwork of rostrum and ark is grained, &c., to imitate American walnut; and the columns, pilasters and their capitals, as well as the corbels are marbled in imitation of Rouge Royale, with Brescia bases and pedestals. The capitals and corbels are picked out in gold. Appropriate Hebrew verses in gold are written on the frieze over the arches of the nave and ark. The work has been executed by Messrs. Chamberlen Brothers, of Hammersmith, at an approximate cost of 150*l.*

FOREIGN.

FRANCE.—M. Marcel Lambert, the architect to the Château of Versailles, is carrying on, along with the restoration of the main building and the two Trianons, the repair of the fountain basins in the park. Those of the Trianon and the south parterres are already restored, and after the usual summer fêtes the repair of the large basin will be undertaken.——A new Colonial Institute has been opened at Bordeaux.—The Service des Bâtiments Civils, having restored the chapel of St. Germain-en-Laye, is now occupied with the repair of the upper stories of the façade of the Château, which are in a dangerous condition.——The Municipal Council of Lous-le-Saunier has organised a competition limited to architects of the Departments of l'Ain, Doubs, Jura, and Saône-et-Loire, for the design of a new theatre for Lous-le-Saunier.——Important works of repair are shortly to be commenced in the interior of the Madeleine at Paris, at an estimated cost of 330,000 fr.——A new Mairie has been inaugurated at Juvisy in the old château of the XVIIth. century, which has been altered and laid out for the purpose, under the direction of M. Thauront, architect.——The death is announced, at the age of 32, of M. Irenée, architect, of Courbevoie.——On Monday last the five new rooms in the Louvre were opened, in which the finest examples of French furniture have been collected. One room is devoted to Louis XIV. furniture, one to Louis XV., and three to Louis XVI.——At Fontainebleau, a monument has just been erected to the memory of Rosa Bonheur. It is the work of her brother, M. Isidore Bonheur, and of his nephew, M. Peyrol, the sculptor.

MISCELLANEOUS.

PROFESSIONAL AND BUSINESS ANNOUNCEMENTS.—Mr. Thos. Durrans, architect, of 71, Baker-street, London, has taken into partnership Mr. Herbert R. Groves, formerly his pupil and subsequently his assistant. The practice will be carried on under the style of "Durrans & Groves."——Messrs. Easton & Co., of Broad Sanctuary, London, have appointed Messrs. Doddrell Bros., of 11, Bothwell-street, Glasgow, as their sole agents for Scotland, for their Schmidt superheating steam system, electric lifts, and other specialities.

CARDIFF ELECTRIC LIGHTING.—The monthly report of the Cardiff Electrical Engineer (Mr. A. Ellis) shows that the total number of consumers is 401, and the equivalent consumption is 40,022 8-candle-power lamps. This shows an increase on the corresponding period of last year of 48 per cent. During the month 2,668 8-candle-power lamps were connected, and in the same period 72,579 Board of Trade units were generated, which shows an increase of 47 per cent. over the same month of last year. The calculated revenue is 160*l.* 12s. 6d. from street lighting and 557*l.* 11s. 6d. from private supply, a total of 718*l.* 4s. This shows an increase of 39 per cent. over the calculated revenue of the same period of last year.

ARCHÆOLOGICAL DISCOVERIES AT DORCHESTER.—An addition to the recent discoveries of Roman remains at Dorchester, Dorset, has just been made. While some workmen were making excavations for a house in the road known as Icen Way, in the eastern suburbs of the town, they came upon a Roman floor more than 20 ft. long and about 7 ft. wide.

RUSKIN MEMORIAL CROSS, CONISTON.—To mark the burial place of the late John Ruskin in Coniston Churchyard, a headstone has within the last few days been erected. The monument is a tall cross of the type lately revived from ancient pre-Norman models, this early English type having been adopted in the belief that Mr. Ruskin himself would have wished for some headstone of a quiet and unpretentious, and yet of an artistic and decorative, kind. The cross is of the hard green stone of Coniston, supplied from the quarries of Tiberthwaite, and is not liable to chip or lose its pleasant grey-green colour. It is slender and tall, standing some 9 ft. high. On the side facing the grave, and looking east, is a figure with a lyre, symbolical of Ruskin's earliest works—poems, and the "Poetry of Architecture." Above this, in a panel of interlaced work, is inscribed his name and the dates 1819-1900, the only lettering thought necessary. On the tablet is the figure of an artist sketching, with the pines and range of Mont Blanc indicated and the rising sun, which was the device on his first important work, "Modern Painters." Above is the lion of St. Mark, representing "Stones of Venice," and the candlestick of the Tabernacle for his "Seven Lamps." The south side is filled with clusters of his favourite wild rose, in bud, blossom, and fruit, and on the boughs are three of the creatures about which he wrote—the squirrel, the robin, and the kingfisher—all symbolical of his interest in nature. The west side, looking towards the mountains, represents Ruskin's ethical and social teaching. At the bottom is the parable of the workmen in the vineyard receiving each his penny from the Master—"Unto this Last." Then comes a design of "Sesame and Lilies," and in the middle "Fors Clavigera"—the Angel of Fate holding the club, key, and nail, which will be readily recognised. Over that is the "Crown of Wild Olive," and at the top "St. George and the Dragon." The north side is of a simple interlaced pattern. The cross-head on one side bears the Globe, symbolising in old sculptures the Sun of Righteousness, and the other side has a disc with the Fylfot or revolving cross as the emblem of eternal life. The monument has been designed by Mr. W. G. Collingwood, of Keswick, a relative of Ruskin.

A NEW ELECTRIC LAMP.—Mr. Hewitt, an American electrician, has invented a new electric lamp which, in the laboratory form at least, has an efficiency about ten times greater than that of the ordinary glow lamp. Models of these lamps were exhibited last month at Columbia University to the American Institution of Electrical Engineers and excited the greatest interest. The main principle is the incandescence of mercury vapour contained in a long glass vacuum tube. One terminal sealed in the tube dips into mercury, the other is connected to a piece of iron inside the tube. In the models exhibited the length of the tubes varied from 2 ft. to 4 ft., and their diameter was about 1 in. Their efficiency was exceedingly high, a tube, for example, ½ in. in diameter and 3 ft. long, giving 400 c.-p. with a consumption of energy the same as that required by four ordinary 8-c.p. glow-lamps. The light given out by the lamps is practically deficient in red rays, and very numerous attempts have been made to remedy this effect. In a patent for mercury lamps granted in this country last year to the General Electric Company of New York, there are no less than eighty-eight claims. In the specification the efficiency of these lamps is stated to be from three to five times greater than that of the carbon arc-lamp, but it is mentioned that the light is of an unsatisfactory colour. To remedy this defect various substances are introduced into the mercury. Iridium, lithium, sodium, and thallium are a few of the substances mentioned. It is admittedly only in the experimental stage at present, but the results already obtained are very promising.

OPEN SPACES (METROPOLITAN).—The grounds, covering about 96 acres, attached to Dollis Hill house, which were opened to the public on Saturday last, have been secured at a cost of 50,000*l.*, and under the name of "Gladstone Park" will be preserved without any curtailment of their natural beauties, as a memorial of the late W. E. Gladstone, who frequently stayed at the house as a guest of Lord Aberdeen when public duties required his residence in London. The estate is being surrounded by the rapidly extending residential localities of Neasden, Hendon, and Willesden. Contributions towards the purchase moneys have been made by the Middlesex County Council (12,500*l.*), the London County Council (3,500*l.*), the Skinners' Company (50 guineas), and the Local Authorities of Hampstead (1,000*l.*), and Hendon (500*l.*). Sir William Houldsworth's Select Committee of the House of Commons have approved of the London County Council's Bill for acquiring the park as an open space—the house remains, for the present, in private occupation.—Some days ago the London County Council formally handed over to the people the Hughes Fields Recreation Ground, with its gymnasium, in the parish of St. Nicholas, Old Deptford, which consists of about three-fifths of an acre, with frontages to Trevithick-street and Butcher's-row, and is part of the surplus land of an insanitary area which had been cleared for the Hughes Fields improvement scheme. The ground is named after Admiral Hughes, who lived, it is believed, in an old adjacent house that fell into decay about fifty years ago.—The Parks Committee, L.C.C., have been authorised to expend a sum of 640*l.* upon the laying out of the open space of Albert-square, Commercial-road, E., which has been acquired for the sum of 10,560*l.*, upon the award of Mr. J. H. Clutton, who adjudicated as arbitrator in the matter of the purchase from the claimant, who, in 1889, bought the property at Albert-square, comprising thirty-nine houses and the open square, for, it was stated, 22,000*l.*, and preferred a claim of 17,702*l.* in respect of the vacant ground. With the aid of a further contribution out of the London Parochial Charities Fund the purchase of the 43 acres to be added to Brockwell Park is secured, the whole of the required sum—about 66,800*l.*—being now subscribed.

THE LONDON AND INDIA DOCKS COMPANY.—In terms of a Bill which the company have introduced this current session it is proposed to carry out an extension on the south side of the Albert Dock, for which plans were prepared by their late engineer-in-chief, Mr. Baggallay, at an estimated cost of from 1,500,000*l.* to 2,000,000*l.* The projected works include a new dock, one mile long from east to west and from 260 ft. (at the extreme west end) to 600 ft. (at the entrance) in width, with an entrance lock 750 ft. long, 80 ft. wide, and 38 ft. deep on the sills, and having three pairs of gates. The depth of the dock will range from 33 ft. to 39 ft., and the quays available for ships are to be 10,000 ft. long. At the west end is to be made a new graving dock, about 720 ft. in length, with a width of 80 ft. on the floor and 106 ft. at the quay level, and a depth of 30 ft. on the sills. A cut will be made for the passage into Albert Dock of vessels which are too long to go through the Albert locks, and to enable vessels in the Albert or Victoria Dock to use the proposed graving dock. During twenty years past the company have expended 3,700,000*l.* upon the enlargement and improvement of their docks and other works.

THE SOUTH-EASTERN AND CHATHAM RAILWAY.—Some extensive alterations are being made near Blackfriars Junction, in Southwark-street, as part of the company's scheme for a reorganisation of their *grande vitesse* parcels service, together with its transfer from London Bridge, and the opening there of additional accommodation for passenger traffic. The new goods station is designed as a terminus for the delivery of Continental parcels, including crates of pigeons from Italy, millinery from Paris and Lyons, and fruit, vegetables, &c., from France, Italy, and Spain, which hitherto have been received at the low-level station, London Bridge—the original terminus of the South-Eastern line—which will shortly be rebuilt. It is 600 ft. long with four sets of rails, and has two platforms at the sides of a cart-road, with space for the unloading at one time of sixty railway trucks and standing-room for eighty trucks besides. An incline from George-street carries the road into the station, which is about 45 ft. above the level of the street. The buildings comprise a warehouse with hydraulic lift and storage arches, and offices in Gravel-lane where a large room on the ground floor forms a waiting-room and shelter for the labourers.

ELECTRICAL LIGHTING IN KENSINGTON.—The Kensington Borough Council have now decided to supply electric light in the main thoroughfares, as under:—Kensington High-street, Brompton-road, Holland Park-avenue, and High-street, Notting Hill. Arc lamps are to be adopted, and the cost is estimated at 3,900*l.*

YORKSHIRE BUILDING TRADES FEDERATION.—The Yorkshire Federation of Building Trades Employers held its monthly meeting at the Westminster Hotel, Sheffield, on the 24th ult., Mr. J. Langdon, Sheffield, presiding. Representatives were present from Sheffield, Halifax, Bradford, Hull, Scarborough, Selby, Bridlington, Keighley, Spen Valley, Leeds, and Malton. The principal business was the appointment of a secretary to fill the vacancy occasioned by the death of Mr. Sutcliffe Hanson, of Halifax. There were four applicants for the office, and Mr. G. Stanley, Secretary to the Hull Branch, was unanimously elected.

PARK FOR LEWISHAM.—On the 27th ult. Mr. A. M. Torrance, J.P., chairman of the London County Council, opened the new Sydenham Wells Park, which has been secured to the public by the London County Council. The park, which is close to the Crystal Palace, is 17¾ acres in extent, has

frontages to Wells-road, Longton-avenue, and Taylor's-lane, and has cost 7,000*l.*, with 5,000*l.* for laying-out. Tennis-courts and a quoit-pitch have been provided, and it is intended to form a bowling-green. The land as acquired was very undulating in form, being practically a basin formed by the conjunction of two valleys. Advantage has been taken of the natural undulations and the existing watercourses, and the ground as now laid out presents a series of slopes, intersected by broad foot-paths and ornamented by plantations and a succession of small lakes and rivulets.

SILCHESTER EXCAVATION FUND.—The antiquities found at Silchester during the past year will be exhibited at the Society of Antiquaries' rooms from the 3rd to the 15th inst. The year's work carried out at Silchester was begun early in May, 1900, and continued, with the usual break during the harvest, until December 4. The excavations were confined to the large area, containing in all eight acres, situated between Insula XII. (excavated in 1894) and Insula XXII. (excavated in 1899), and extending up to the north gate and town wall. The area in question contains four insulæ, which have been numbered XXIII. to XXVI. Insula XXIII. formed the northernmost of a series of unusually large squares occupying the central portion of the town. A fair-sized house at the south-west corner was uncovered by the late Rev. J. G. Joyce in 1865; the recent excavations have revealed an additional series of chambers on the north-east. Another house of large size with several mosaic pavements was also uncovered on the east side of the insula, and in the mouth of its courtyard was a small square building which may have been devoted to sacred purposes. This had been built up round a small and earlier structure of the same character. The other traces of buildings in this insula, despite its size, were singularly scanty, but the rubbish pits and wells were unusually productive in objects of interest. In pottery these yielded upwards of a hundred whole vessels of all kinds and sizes, and from one of the wells was recovered another great hoard of iron tools, mostly a smith's, similar to that found in 1890 in Insula I., but considerably larger numerically. Insula XXIV. forms a long and narrow triangular strip, bounded on the north by the town wall and its bank. Such strips have hitherto proved more or less empty of buildings, but in this case it contained two houses, one of which was of large size and of exceptional interest from the peculiarity of its plan and the number of mosaic floors in it. Insula XXVI. had in it two houses, a small one on the west, and another in the south-east quarter which was partially uncovered by Mr. Joyce in 1866. Its complete plan has now been revealed. There are also traces of a ruined house near the south-west angle. Besides the houses, Insula XXVI. contained traces of at least three other structures. One of them was represented by a solid circular platform with a cement floor 27 ft. in diameter, enclosed apparently by woodwork or half-timbering. The coins found were as numerous as usual, but not very important.

BERLIN FIRE CONGRESS.—In acceptance of an invitation from the German Government to attend an International Fire Congress, to be held at Berlin next week in connexion with the Fire Exhibition which was opened on Saturday, the British Fire Prevention Committee will be represented by a deputation comprising Mr. Edwin O. Sachs, chairman; Mr. Max Clarke, A.R.I.B.A.; Mr. F. R. Farrow, F.R.I.B.A.; Mr. F. Hammond, F.R.I.B.A., District Surveyor, Hampstead; and Mr. Ellis Marsland, District Surveyor, Camberwell. The deputation will take the opportunity to examine the general arrangements as to the working of the Building Law at Berlin, as well as the influence of the new theatre, factory, and workshop regulations upon modern structures in that capital; and they will, on their return journey, visit Hamburg, with a view to studying the general fire protective arrangements of the port and the more recent forms of warehouse construction which have been adopted in that city. The observations of the deputation, both at Berlin and at Hamburg, at the Exhibition, and in attendance at the lectures of the Fire Congress, will be embodied in a report, each member of the deputation taking up a special chapter dealing with that part of the subject with which he is particularly conversant. The report will be published in due course.

THE INSTITUTE OF SANITARY ENGINEERS (INCORPORATED).—This Institute has taken new offices at No. 19, Bloomsbury-square, W.C.

CAPITAL AND LABOUR.

THE DISPUTES IN THE LEICESTER BUILDING TRADE.—On the 21st ult. Sir William Markby attended at the Town Hall, Leicester, for the purpose of officiating as arbitrator in the dispute which recently occurred at the new Wholesale Market between the bricklayers' labourers and their employers on a question relating to concrete. Sir William heard evidence on both sides, and intimated that he would give his decision in the matter in the course of a few days. Subsequently, upon the suggestion of Councillor T. Smith, the local representative of the Board of Trade, Sir William Markby accepted the position of friendly conciliator in the matter of the dispute between the Leicester stonemasons and their employers, arising out of the men's demand for an advance of wages and other concessions. Statements representing both sides of the case were placed before him, and it is understood that he will make a recommendation upon the basis of which the dispute may be amicably settled.

PERTH MASONS AND THEIR WAGES.—The operative masons have agreed to accept the terms offered by the masters. Some time ago the employers intimated that they would reduce the men's wages by a ½d. per hour after the beginning of June. At first there was a strong feeling among the men that they should fight the matter, but after considering the present dulness in the trade, the men have agreed to accept the terms. The agreement commences in June and lasts for a year.

STRIKE IN THE BUILDING TRADE AT NEWARK.—There is no indication at present of a settlement of the dispute in the building trade at Newark which commenced on May 1. Six months' notice prior to this date had been given to the employers for an advance in wages by the operative bricklayers and the builders' labourers. Some 200 men were affected. Nearly the whole of these men came out on strike. Negotiations were at once opened with the employers, and as far as the bricklayers were concerned, a settlement was soon arrived at by the bricklayers withdrawing their demands for an increase of ½d. per hour, and the employers agreeing to sign a code of working rules for the district. With regard to the builders' labourers this section insisted upon an advance in wages of ½d. per hour, viz., from 5d. to 5½d. per hour; and the employers agreeing to a code of working rules for the district. A meeting between representatives of both sides failed to arrive at a settlement, and the strike has been carried on with vigour and determination by both sides. The bricklayers are reported as working with non-society labour, where it has been introduced, although some fifty are unemployed owing to the labourers continuing the strike. Three firms are working, having conceded an advance of ½d. per hour to the labourers; two others are reported as partially employed. Most of the firms are, however, standing.—*Nottingham Guardian.*

RECENT PATENTS:

ABSTRACTS OF PATENTED INVENTIONS.

1,754.—A CIRCULAR-SAW GUARD: *J. Ingleson.*—The guard consists of two shields pivotted to the end of a plate of which the required height may be adjusted in a bracket, that is secured to the ceiling, by means of a counter-weight upon a chain and a clamping screw. Slotted arcs serve for adjustment of the shields at any angle desired, on the forward end of one counter-balanced shield is mounted a roller, and the riving-knife is carried upon an adjustable slide.

1,773.—A CONTRIVANCE FOR SURVEYORS' INSTRUMENTS, &c.: *J. E. Ramsay.*—Between glass plates is pivotted a pendulum-bob, having forked pointers that travel over scales marked upon both sides of the ring, means are provided for securing a spring in position, when the instrument is not being used the released spring is caused to enter a recess in the bob, and so keeps the bob from swinging.

1,776.—ROOFING-TILES: *F. Nölkter.*—To obviate leakage of water and the lifting of the tiles by the wind, they are fashioned with singly or doubly rebated waved or stepped and interlocking sides, and with upper and lower serrated interlocking undercut ribs; strengthening ribs are made on their under sides, their lower edges are rounded or bevelled, and upper wedge-shaped recesses in them interlock with undercut projections under the side edges of the tiles above. For preventing water from trickling down the end walls diagonal ribs are made upon the outside of half tiles to be used for the gable ends of a roof.

1,803.—CONSTRUCTION OF CEILINGS AND FLOORS: *W. J. Chant.*—For a temporary centering, boards are laid across wooden ribs nailed to metal plates that are supported upon the lower flanges of the joists, the ceiling being built up with plaster sheets cast about centres of woven wire, and fastened on to iron bars that rest upon the lower flanges of the joists, and the under surface being plastered.

1,858.—CRANES: *R. Williamson.*—The engine and lifting gear are carried upon one end of an arm which, together with the load, they will thereby balance. The arm or jib, constructed of two I-section girders, turns around upon the top of a travelling frame. In operation the load is lifted when the carriage is close in; then the arm is turned and a Y-prop (or, in the case of a railway, a truck upon parallel rails) is put beneath the outer end of the arm when the carriage can be run out for the lowering of the load.

1,915.—ASPHALT PAVEMENT: *C. A. C. Caudenberg.*—Asphalt, 100 kilos. finely powdered is mixed with a solution of from 75 to 100 grammes of India-rubber and 5 litres of petroleum, benzine, or some similar spirit.

1,931.—POTTERY WARES: *H. Werner.*—For a material that is described as possessing a low specific gravity with great strength, and as being a bad conductor of sound, heat, and electricity, an admixture is made of from 5 to 45 per cent. of crushed basalt and a refractory earth, to which crushed quartz may be added. The basalt is intended to give a glazed surface to the goods when fired.

1,996 and 1,998.—MEANS OF STOPPING LEAKS IN PIPE JOINTS: *S. R. Dresser.*—For gas and other pipes, and more particularly for spigot-and-socket joints, is devised a clamp-ring made in two parts and having stepped ends together with apertures for the bolts, which have polygonal heads and side projections for engagement with the joint-socket, and are retained in their places with flanges or walls. The packing ring fits into an annular groove or recess. (1,998) In the case of a screwed union, the packing ring will fit into annular recesses cut in the clamping rings, each of which consists of two portions that overlap one another and will temporarily engage by means of their apertures and projecting lugs, whilst retaining lugs prevent the turning of the bolts when they are screwed up; the contrivance is available also for leaded flange joints.

1,997 and 1,999.—PIPE JOINTS AND EXPANSION JOINTS: *S. R. Dresser.*—An expansion joint for plain-ended pipes is made in two sections that when they are screwed up will compress together the ring, of which the ends are shaped as wedges, and the elastic packing. The other invention (1,999) relates to a stuffing-box joint or detachable coupling available for elbows, tees, sleeves, cocks, and valves, and so on, of pipes that are connected with a bell and socket that contain packing; a flange and a wedged extension are fashioned upon the pipe, and the joint, which allows for expansion, is formed by the compression of a covering follower upon the packing when the screwing up is completed.

2,021.—SPIGOT-AND-SOCKET JOINTS FOR CLOSET PIPES: *H. Harvey.*—A connexion between the soil-pipe and the closet outlet consists of a metal tube or collar that is fitted upon the outlet by means of a packing ring, the soil-pipe being inserted into its other end, and an inner tube packs the elastic packing. The packing-ring may be clamped between a clamping-ring and the narrowed upper portion of the collar, or a ring can be fitted over the packing-ring between the collar and the outlet pipe, at the end of which is a boss or flange; union or junction pieces may be made in this shape of two or more similar joints formed in pieces.

2,046.—A METHOD OF GLAZING WINDOWS: *E. Glauert.*—Wrought-iron bars T-shaped in cross-section, constitute the sash-bars and rails or stiles. At the point where one bar crosses another it is cut out or slotted, the flange being turned back so that the other bar shall be passed through the opening or slot; recesses in the inner flanges of the side-bars take the crossbars, and the latter are fastened with counter-sunk rivets.

2,071.—A SAFETY APPARATUS FOR LIFTS.—*J. W. Holmes.*—At the top of the well is a cross-beam resting upon springs, which under normal conditions remain compressed; on the beam is a pulley over which the lifting-rope is passed, on the guide-posts are a number of pawls, from which rods are hung; if the rope breaks the springs will tend to raise the beam, and the pawls will thereupon be tilted forwards into engagement with rack-plates upon the cage, so as to arrest its fall.

2,074.—ATTACHMENT OF TUBES AND PIPES: *F. W. Barthels and W. Schaefer.*—For facilitating the attachment of the tube to its flange before the operation of brazing the flange is chamfered and is fitted with a collar of which the groove is pierced in several places in the direction of the tube for taking the brazing-material which, when heated, will melt and make the joint without fusing the tube.

2,094.—MEANS OF DETECTING THE PRESENCE OF EXPLOSIVE GAS: *G. A. Lyncker and M. L. F. Mohr.*—The inventors seek to provide for discovering the presence of fire-damp, coal-gas, hydrogen, &c., in mines, gasworks, and so on, by an apparatus which shows an increase of pressure which arises from diffusion into a porous vessel and is exerted upon a flexible diaphragm, whereby an electrical alarm circuit becomes completed; the diaphragm is held in a ring with washers and a ring connected to one binding-post, the former ring holding the porous vessel and its shield. A screw adjusts the contact-point which is connected to the other binding-post; a cover encloses the parts thus described, and the pressure both within and without is equalised with valves. Eyes suspend the apparatus upon the shield, and a set of them can be connected to a central station.

2,103.—FASTENINGS FOR WINDOW-SASHES; ALSO AVAILABLE FOR GATES, DOORS, AND SHUTTERS: *T. Harrison.*—A pin upon a bracket, which is mounted upon the upper sash, engages with a slot cut in the blade spring of a spring-catch carried by a support upon the lower sash, the bevelling of the upper portion of the bracket causes the spring to be forced aside with the closing of the sashes and ensures the automatical engagement of the pin, pressure upon a knob will disengage the spring for release of the fastening; in a modification two pins and springs are used.

2,112.—A CONTRIVANCE FOR USE WITH WINDOWS: *R. R. Thom and S. McCall.*—In the frame are grooves and holes that take pivots at the lower corners of the sashes and on the top rails are eccentrical cleats or holders through which are passed side

chains or cords that are attached to the window head and sill, and are to be freed by pressure upon knobs of the eccentrics to admit of the sash being opened or closed, the eccentric can be made to press the cord against a pulley by means of a spring, and pivots can be arranged to slide in metal guide-grooves in substitution for the grooves formed in the frame.

2,119.—JUNCTION-BOXES FOR ELECTRICAL CONDUCTORS: *L. M. Waterhouse and Simplex Steel Conduit Company.*—A box for conductors that are laid within tubes has main branch nipples together with insulators for the connecting-pieces, a separating bridge being made in one piece with the insulators, for sweated connexions with the mains the ends of the connecting-pieces, which are made in two parts, are drilled, and for the branches are arranged transverse holes with pinching-screws.

2,120.—ELECTRICAL SWITCHES: *L. M. Waterhouse and Simplex Steel Conduit Company.*—The inventors devise a coupling-contrivance so as to constitute a double-pole switch by the coupling of two ordinary tumbler switches; the counter-sunk holes of two bars take the spherical heads of the switch handles, and thus make ball-and-socket joints, a distance-piece at the middle keeps the bars apart whilst they are connected by means of screws that provide for an adjustment of the joint.

2,125.—EXTENSION LADDERS: *W. Crowson.*—The two sections of the ladder are extended with a cord around pulleys and hooked, weighted, and cranked levers or catches, which are pivotted on to the upper section, maintain the two sections in their relative places; one end of the cord is secured to a lever, which is pivotted to the upper section as well as to the weighted cranked end of the lever or catch; its other end is fastened to the foot of the upper section; the hooks which fit over the rounds of the lower section are to be turned downwards out of action with a pull upon the lever-end of the cord; to the lower section are attached angular guide-plates, between which the upper section will slide, and upon the upper section are rollers which press against guide-plates upon the lower section.

2,148.—AN APPLIANCE FOR USE WITH THE SCOOPS OR CUPS OF ELEVATORS: *H. A. Schmidt.*—To obviate any spilling over between an elevator and the scoops the latter are fashioned with continuations turned out at the ends of their front walls. The upper edges of the back walls being turned outwards as well, each back wall has a rounded bottom that lies close against its corresponding wall, is attached to the belt, and is formed continuously with the sides of the scoop.

MEETINGS.

FRIDAY, MAY 31.

Architectural Association.—Annual dinner, Criterion Restaurant, Piccadilly-circus. 7.30 p.m.

Surveyors' Institution.—Country meeting at Southampton (concluded).

SATURDAY, JUNE 1.

Association of Municipal and County Engineers.—Home District meeting, Chichester. Mr. J. Saunders on "Municipal Work in Chichester."

St. Paul's Ecclesiological Society. — Visit to the Parish Church of Enfield. Train leaves Liverpool-street at 2.38 p.m.

Builders' Foremen's Association (Memorial Hall, Farringdon-street).—7.30 p.m.

Devon and Exeter Architectural Society.—Annual meeting at Plymouth.

Edinburgh Architectural Association.—Visit to Balmanno and Abernethy.

MONDAY, JUNE 3.

Royal Institute of British Architects.—Fourteenth General Meeting (business). (1) To receive the report of the scrutineers appointed by the annual general meeting to direct the election of the Council, Standing Committees, &c., for the year of office 1901-2; (2) election of candidates for membership. 8 p.m.

Surveyors' Institution.—Annual general meeting. 3 p.m.

Society of Engineers.—Mr. A. Taylor Allen on "Concrete Subways for Underground Pipes." 7.30 p.m.

WEDNESDAY, JUNE 5.

Royal Archæological Institute.—(1) Professor W. Boyd Dawkins, F.R.S., F.S.A., on "The Exploration of a Sepulchral Cave at Gop, near Prestatyn, Flintshire." (2) Mr. E. W. Brabrook, C.B., F.S.A., on "Mediæval Lavatories." 4 p.m.

Builders' Foremen and Clerks of Works' Institution.—Ordinary meeting of the members. 8 p.m.

Society of Biblical Archæology. — (1) Prof. A. H. Sayce (President) will give a short address on "Recent Discoveries in the East. (2) Prof. Dr. Wiedemann on "Bronze Circles, and Purification Vessels in Egyptian Temples." 4.30 p.m.

Edinburgh Architectural Association.—Address by Professor Baldwin Brown on "Durham, Hexham, and Chesters," illustrated by lantern transparencies. 8 p.m.

British Archæological Association.—(1) "Some Aspects of the Life and Times of Alfred the Great." By Dr. W. de Gray Birch, F.S.A. (2) "The Tribunal Prætoris at Rome." By Dr. Russell Forbes. 8 p.m.

THURSDAY, JUNE 6.

Society for the Encouragement of the Fine Arts.—The second conversazione, at the Galleries of the Royal Institute of Painters in Water Colours, Piccadilly.

SATURDAY, JUNE 8.

British Institute of Certified Carpenters.—Visit to Kew Gardens. 3 p.m.

Northern Architectural Association. — Visit to Hexham.

SOME RECENT SALES OF PROPERTY:

ESTATE EXCHANGE REPORT.

May 14.—By T. LAVINGTON (at Devizes).

Devizes, Wilts.—6, 7, and 8, New Park-st., f.	£395
95 to 98, New Park-st., f.	600
4, Southbroom-ter., f.	400

May 15.—By WORSFOLD & HAYWARD (at Sandwich).

Stonar, Kent.—The Stonar Marshes, 69 a. 3 r. 19 p., f.	1,825

May 16.—By Messrs. KEMSLEY (at Romford).

Romford, Essex.—Hainault-rd., a block of building land, f.	220
Rosendale-rd., a block of building land, f.	102
Collier Row-lane, a block of building land, 7 a. 1 r. 24 p., f.	1,420
61 and 63, Eastern-rd., f.	870

By BAXTER, PAYNE, & LEPPER (at Bromley).

Bromley, Kent.—3 to 9 (odd), Florence-villas, u.t. 96 yrs., g.r. 28*l.*, e.r. 122*l.*	970
5, The Vale, f.	280

By C. H. BROGDEN (at Marple).

Marple, Cheshire.—Cross-lane, Yew Tree Cottage, f.	305
Cross-lane, a first freehold yearly rent of 9*l.* 10s. 4½d.	239

May 17.—By VERNON & SON (at High Wycombe).

Bledlow Ridge, Bucks.—Druces Farm, 64 a. 1 r. 17 p., f.	800
Stokenchurch, Bucks.—Freehold building land, 2 a. 1 r. 36 p.	235
Four freehold cottages and 0 a. 1 r. 25 p.	580
Freehold residence, two cottages, and 0 a. 1 r. 7 p.	450
Radnage, Bucks.—Eight cottages and land, 3 a. 3 r. 4 p., f.	430
Ibstone Common, Bucks.—Two freehold cottages	100
Loudwater, Bucks.—Residence and three cottages, c.	775
A moiety of King's Paper Mill, No. 47, area 1 a. 2 r. 27 p., f.	2,450
High Wycombe, Bucks.—3, Crendon-st., f., r. 30*l.*	530

May 18.—By STEPHENSON & ALEXANDER (at Cardiff).

St. Andrew's Major, Glamorgan.—Coldbrook Estate, 70 a. 1 r. 21 p., f. (in lots)	5,850

By Messrs. SPELMAN (at Norwich).

Great Plumstead, Norfolk.—The Red House and 2 a. 1 r. 9 p., f.	1,300
Cottage and enclosure, 12 a. 2 r. 18 p., f.	700

May 20.—By BRACKETT & SONS.

Camden Town.—80 and 82, Camden-rd., u.t. 38 yrs., g.r. 10*l.*, r. 97*l.* 10s.	1,035
Woodford.—Cleveland-rd., Norfolk Villa, f.	740

By H. J. BROMLEY.

Forest Hill.—4, Church-rd., u.t. 68¾ yrs., g.r. 10*l.*	485
Brixton.—36, Lanercost-rd., u.t. 89 yrs., g.r. 9*l.* ..	500
Sydenham.—82 to 90 (even), Sydenham-rd., f., r. 180*l.*	3,280

By J. P. DICKINS & CO.

Hampstead.—5 and 25, Hillfield-rd., u.t. 73 yrs., g.r. 16*l.*, r. 100*l.*	1,065

By ELLIOTT, SON, & BOYTON.

Marylebone.—31, Devonshire-st. and studio in rear, u.t. 21 yrs., g.r. 45*l.*	990

By NORMAN & SON.

Leytonstone.—110, Woodhouse-rd., f., r. 32*l.*	420
107, 111, and 113, Harrow-rd., f., r. 94*l.*	1,200
East Ham.—15 to 21 (odd), Kelly-rd., u.t. 77 yrs., g.r. 12*l.* 12s.	
2 to 12 (even), Arthur-rd., u.t. 77 yrs., g.r. 18*l.* 18s.	345

By C. & F. RUTLEY.

Bloomsbury.—12 and 15, Gower-mews, u.t. 35 yrs., g.r. 24*l.*	420
Brighton, Sussex.—49, Sussex-square, f.	820
Caterham, Surrey.—Main-rd., Stanstead and 8 a. 1 r., 15 p., f.	1,500
Main-rd., a block of building land, 2 a. 2 r. 0 p., f.	1,625
Upper Caterham, Surrey.—Whyteleafe-rd., Sunnyside and 2 a. 1 r. 6 p., f., r. 168*l.*	1,025
Essendene-rd., a plot of building land, 0 a. 2 r. 37 p., f.	2,800
High-st., a plot of building land, f.	140
Whyteleafe, Surrey.—Croydon-rd., two plots of land, with erection thereon, f.	200

By R. TIDEY & SON.

De Beauvoir Town.—6, Balmes-rd., u.t. 25 yrs., g.r. 4*l.* 10s., e.r. 34*l.*	115
Clapton.—84 and 86, Pedro-st., u.t. 78 yrs., g.r. 10*l.*	330
202 and 204, Glyn-rd., u.t. 76 yrs., g.r. 10*l.*	255
Caledonian-road.—24, Bryan-st., with sheds in rear, u.t. 43 yrs., g.r. 5*l.*, r. 65*l.*	380
Hoxton.—14, Penn-st., u.t. 36 yrs., g.r. 5*l.*	330
Leytonstone.—Birkbeck-rd., two building plots, f.	220

By A. H. TURNER & CO.

Lurgashall, Sussex.—Little Brockhurst Farm, 45 a. 1 r. 21 p., f.	120
Lodsworth, Sussex.—Shotters and 45 a. 2 r. 34 p., f.	

By WEATHERALL & GREEN.

Kentish Town.—53, Bartholomew-rd., u.t. 57¼ yrs., g.r. nil, r. 65*l.*	900
Notting Hill.—14, 16, 18, and 20, Blechynden-st., f.; also l.g.r. 7*l.*, u.t. 71 yrs.	1,850
Bonchurch-rd., f.g.r. 9*l.*, reversion in 70½ yrs. ..	243

By WALFORD & WILSHIN.

Norwood.—82, High-st., f., r. 60*l.*	1,350
Anerley.—220, Anerley-rd., f., r. 100*l.*	1,450
Versailles-rd., i.g.r.'s 30*l.* 5s., u.t. 44 yrs., g.r. 11*l.* 12s.	275
Madeline-rd., i.g.r. and rent charge of 45*l.* 6s. 6d., u.t. 73 yrs., g.r. 25*l.*	410

May 21.—By FLEURET, SONS, & ADAMS.

Oxford-st.—No. 183, The Crown, f., also No. 442, The Union (Pownceby's), u.t. 21 yrs., g.r. 12*l.* 12s.	60,000
Strand.—No. 93 (Lawrence's), u.t. 22 yrs., r. 265*l.*, with goodwill	8,000

By W. HALLETT & CO.

Putney.—Weimer-st., a range of stabling, u.t. 65½ yrs., g.r. nil	1,500

By HUNTER & HUNTER.

Regent's Park.—161, Albany-st., u.t. 14 yrs., g.r. 15*l.* 15s.	210

By WALTON & LEE.

Mayfair.—63, Curzon-st., u.t. 820 yrs., g.r. 1*l.* 10s., r. 300*l.*	£7,500

By DEBENHAM, TEWSON, & CO.

Haggerston.—Dunston-rd., &c., f.g.r.'s 96*l.* 10s., reversion in 18 yrs.	4,825
Dunston-st., &c., f.g.r.'s 160*l.* 0s. 0¾d., reversion in 18 yrs.	9 400
Haggerston-rd., &c., f.g.r.'s 117*l.* 7s., reversion in 18 yrs.	7,600
Dunston-st., &c., f.g.r.'s 185*l.*, reversion in 18 yrs.	11,600
Dunston-rd., &c., f.g.r.'s 164*l.* 10s., reversion in 18 yrs.	8,100
Clarissa-st., &c., f.g.r's 45*l.*, reversion in 18 yrs.	2,125
33, Lee-st., r. 42*l.*, also f.g.r.'s 59*l.*, reversion in 18 yrs.	3,400
Lee-st., The Earl of Zetland p.-h., &c., f.g.r. 30*l.*, reversion in 18 yrs.	6,100
Dunston st., The Two Beehives p.-h., f.g.r. 22*l.* 10s., reversion in 18 yrs.	3,000
Clarissa-st., The Prince Ernest p.-h., f.g.r. 29*l.*, reversion in 18 yrs.	2,320
Chigwell, Essex.—Taylors and 55 a. 0 r. 27 p., f.	6,050
South Kensington.—23, Earl's Court-sq., u.t. 72½ yrs., g.r. 18*l.*	2,000
City of London.—20 and 21, Harp-lane, area 2,208 ft., building lease for 80 yrs., let at per annum	300
77, Knightrider-st., area 800 ft., building lease for 80 yrs., let at per annum	190

By CHANCELLOR & SONS.

Frimley, Surrey.—The Priory and 2 acres; also 1, 2 and 3, Priory Cottages, f.	3,500
Wokingham, Berks.—Wiltshire Farm, 2 acres, f., r. 70*l.*	1,560
Hampton-on-Thames, Middlesex.—High-st., Finthorpe, and 1 acre, f., r. 65*l.*	1,200
High-st., The Cottage, f., r. 30*l.*	520

By SALTER, REX & CO.

Kentish Town.—36, Lady Margaret-rd., u.t. 67 yrs., g.r. 10*l.*, r. 60*l.*	610
Regent's Park.—13, Little Edward-st., u.t. 22 yrs., g.r. 4*l.*	115
Dalston.—57 to 63 (odd), Malvern-rd., u.t. 41 and 43 yrs., g.r. 21*l.* 5s.	1,335

By DYER, SON, & HILTON (at Blackheath).

Lee.—2 and 6, Upwood-rd., u.t. 65 yrs., g.r. 7*l.*, r. 98*l.*	955
18, 20, and 22, Ronver-rd., u.t. 77 yrs., g.r. 12*l.*	360

By WILLIAM ROLFE (at Masons' Hall Tavern).

Pimlico.—Victoria-st., The Duke of York p.-h., u.t. 17½ yrs., r. 200*l.*; also the York Restaurant, u.t. 21 yrs., r. 150*l.*, with goodwill	22,000
Victoria-st., The Duke of York p.-h., and the York Restaurant, i.g.r. 26*l.*, u.t. 21 yrs., g.r. nil	910

By TABERNACLE & SON (at Masons' Hall Tavern).

Sonning-on-Thames, Berks.—The White Hart Hotel, u.t. 47 yrs., r. 175*l.*, with goodwill	3,750

May 22.—By DYER, SON, & HILTON.

Lee.—243, Lee High-rd., u.t. 72 yrs., g.r. 2*l.*, r. 70*l.*	385
Wimbledon.—11, Effra-rd., f.	300

By MARK LIELL & SON.

Plaistow.—20 to 34 (even), Milton-rd., f.	965
36 to 42 (even), Milton-rd., and 24, 26, and 28, Charlton-rd., f.	880
Hackney.—33 and 35, Glaskin-rd., u.t. 54½ yrs., g.r. 8*l.*, r. 56*l.*	645
Stratford.—6 & 8, Warwick-rd., u.t. 78 yrs., g.r. 11*l.*	410

By E. W. RICHARDSON & SON.

Enfield.—Green-st., Beaumont House, f.	480
Plaistow.—Stock-st., f.g.r. 7*l.*, reversion in 85 yrs.	155
Chesterton-rd., a plot of building land, f.	130

By ROBINS & HINE.

Streatham.—13 and 17, Northanger-rd., u.t. 78½ yrs., g.r. 13*l.*, r. 84*l.*	1,030

By RUSHWORTH & STEVENS.

Bloomsbury.—9, Vernon-pl., u.t. 35 yrs., g.r. 20*l.*, r. 90*l.*	1,080
Camden Town.—15, Cantlowes-rd., u.t. 49 yrs., g.r. 7*l.*	465

By SINCLAIR & SON.

Canonbury.—2, Clephane-rd., u.t. 44¼ yrs., g.r. 6*l.* 15s., r. 50*l.*	500
Hackney.—16, Willow-rd., f.	275
Twickenham.—Belmont-rd., Vine Lodge, f., e.r. 30*l.*	400
Wimbledon.—93, Kingston-rd., u.t. 77 yrs., g.r. 5*l.*, r. 30*l.*	300

By E. TOMPKINS & SON.

Hyde Park.—6, Chester-pl., u.t. 32½ yrs., g.r. 6*l.*, e.r. 250*l.*	1,700

By WRIGHT & CO.

St. John's Wood.—61, Carlton-hill, u.t. 48½ yrs., g.r. 17*l.* e.r. 100*l.*	850

By DOUGLAS YOUNG & CO.

Wimbledon.—38, Cromwell-rd., u.t. 87½ yrs., g.r. 6*l.* 10s., e.r. 34*l.*	345
Peckham.—72, 74, and 76, Scylla-rd., f.	950
Norwood.—9, Whiteley-rd., u.t. 65 yrs., g.r. 6*l.*, r. 30*l.*	290
Clapham.—41, Lansdowne-gardens, u.t. 41 yrs., g.r. 9*l.* 9s., e.r. 55*l.*	440
Herne Hill.—41, Hinton-rd., u.t. 72 yrs., g.r. 5*l.* 10s.	310
Brixton.—39, Endymion-rd., u.t. 78 yrs., g.r. 7*l.* 10s., r. 45*l.*	420

By T. WOODS (at Isleworth).

Isleworth, Middlesex.—74, South-st., with slaughter-house, yard, &c., f., r. 50*l.*	1,050
72, 76, and 78, South-st., f.	695
1, 2, and 3, Milton-pl., f.	610
Woodlands, Ingress House, f., e.r. 50*l.*	630
Hounslow, Middlesex.—1, 2, and 3, Asa-cottages, f.	450
1, 2, and 3, Maud-cottages, f.	400

By E. COLLIER (at Horse Shoe Hotel).

Tottenham.—Park-lane, the Park Hotel, u.t. 36 yrs., r. 105*l.*, with goodwill	9,660

May 23.—By ALDER & CO.

Stoke Newington.—25, Lordship-park, u.t. 72½ yrs., g.r. 10*l.* 10s., r. 60*l.*	1,075
Camberwell.—2 and 4, Hardess-st., u.t. 66 yrs., g.r. 9*l.*	383

By H. J. BLISS & SONS.

Hackney.—24, Wetherell-rd., r. 50*l.*; also i.g.r. 11*l.*, u.t. 50½ yrs., g.r. 6*l.*	550

[See also next page.

CONTRACTS AND PUBLIC APPOINTMENTS.

(For some Contracts, &c., still open, but not included in this List, see previous issues.)

CONTRACTS.

Nature of Work or Materials.	By whom Required.	Forms of Tender, &c., Supplied by	Tenders to be delivered
Additions to Workhouse	Armagh Guardians	W. Calvert, Workhouse, Armagh	June 4
Russian Bath, Union-street	Leeds Corporation	W. S. Braithwaite, Architect, 6, South-parade, Leeds	do.
Stone Bridge over River Eye, Coveyheugh, N.B.		T. Meek & Sons, Civil Engineers, 29, St. Andrew-sq., Edinburgh	do.
Surveyor's Materials	King's Lynn Corporation	H. J. Weaver, Civil Engineer, Town Hall, King's Lynn	do.
Street Works	Leyton (Essex) U.D.C.	W. Dawson, Civil Engineer, Town Hall, Leyton	do.
Surveyor's Materials	Milnrow (Lancs) District Council	W. H. Foster, Surveyor, Council Offices, Milnrow	do.
Road Materials	East Grinstead U.D.C.	R. Wilds, Surveyor, Council Offices, East Grinstead	do.
Footpath	Ebchester Parish Council	J. Middleton, Council Offices, Ebchester	do.
Sewerage Works, Derrygonnelly	Enniskillen R.D.C.	T. Elliott, Architect, Enniskillen	do.
Paving Works	Wigston Magna (Leics.) U.D.C.	A. H. Burgess, 1, Berridge-street, Leicester	do.
Sewerage Works (10 miles)	Rhymney (Wales) U.D.C.	Surveyor, Council Offices, Rhymney	do.
Paving Works	Watford U.D.C.	H. M. Turner, 14, High-street, Watford	June 5
Kerbing, &c.	do.	do.	do.
Granite (2,500 tons)	Enfield U.D.C.	R. Collins, Surveyor, Court House, Enfield	do.
Reservoirs	Belper R.D.C.	J. Frith, Engineer, Baslow, near Belper	do.
Wall, &c.	Bingham (Notts) R.D.C.	C. Parnham, Surveyor, Cotgrove, Notts	do.
Steading, Elgin		Reid & Wittet, Architects, Elgin	do.
Sewage Outfall Works	Seaford (Sussex) U.D.C.	W. H. Pawson, 3, Clinton-place, Seaford	do.
Cast-iron Girders, Columns, &c.	Cardiff Corporation	C. H. Priestley, Engineer, Town Hall, Cardiff	June 6
Widening, &c., Bridge, Southchurch-avenue	Southend Corporation	A. Fidler, Civil Enginer, Town Hall, Southend	do.
Two Shelters, Esplanade, West Cliff	do.	do.	do.
Forty Houses	do.	do.	do.
Police Station, &c., Southminster	Essex County Council	F. Whitmore, Architect, Duke-street, Chelmsford	do.
Renovation of Wesleyan Church Wall, Gwinear		O. Caldwell, Architect, Penzance	do.
Coal Depot, Stabling, &c., Clementhorpe	York Equitable Indus. Soc., Ltd.	Penty & Penty, Architects, Lendal Chambers, York	do.
Business Premises, Gallowgate, Aberdeen	Northern Co-op. Company	Brown & Watt, Architects, 17, Union-terrace, Aberdeen	do.
Eight Houses, Far Cross Bank, Kendal		J. Stalker, Architect, 57, Highgate, Kendal	do.
Sewer	Leicester Corporation	E. G. Mawbey, Civil Engineer, Town Hall, Leicester	do.
Lodge, Walpole Park	Ealing U.D.C.	C. Jones, Civil Engineer, Public Buildings, Ealing	do.
Warehouses, Backway	Bishop Auckland Indus. Soc., Ltd.	F. H. Livesay, Architect, 107, Newgate-street, Bishop Auckland	do.
Farmhouse, Whamtown, near Carlisle	Mr. D. Johnstone	J. Leslie, Architect, 71, Broad-street, Carlisle	June 7
Stabling, Leicester	Midland Railway Company	Engineer, Midland Railway Company's Offices, Derby	do.
Sewerage Works, Fairview-road	Dartmouth Town Council	A. Smith, Civil Engineer, Victoria-road, Dartmouth	June 8
Well Sinking	Hargrave Parish Council	G. Wiggins, Hargrave, near Raunds, Northants	do.
Three Houses, Tylorstown, Wales		Griffiths & Jones, Architects, Tonypandy	June 9
*Sewerage Works	Hornsey U.D.C.	Council Offices, Southwood-lane, Highgate, N.	June 10
Additions to Buildings, West Hedgeley	Mr. J. R. Carr-Ellison	M. T. Wilson, Architect, Alnwick	do.
Church, Helmsley, Yorks.		Hornsey & Monkman, Architects, 10, Railway-street, York	do.
Additions to Workhouse Infirmary, Haslingden-road	Blackburn Union Guardians	F. C. Ruddle, Architect, Union Offices, Cardwell-pl., Blackburn	do.
Schools, Blaenycwm	Ystradyfodwg School Board	J. Rees, Architect, Hillside Cottage, Pentre	do.
Sewerage Works	Sunbury-on-Thames U.D.C.	H. F. Coales, Surveyor, Council Offices, Sunbury	do.
Concrete Weir	Leamington Corporation	W. de Normanville, Engineer, Town Hall, Leamington	do.
Additions to Chapel, Resolven, Wales		J. L. Smith & Davies, Architects, Aberdare	do.
Sewage Disposal Works	Clayton-le-Moors (Lancs) T.C.	Brierley & Holt, Civil Engineers, 20, Richmond-terr., Blackburn	do.
Granite Road Metal	Haverhill (Suffolk) U.D.C.	F. W. Knewstubb, Surveyor, Haverhill	do.
Limestone (200 tons)	Leadgate (Durham) U.D.C.	J. H. Coupland, Shotley Bridge	do.
Road Widening	Rochford (Essex) R.D.C.	F. Whitmore, Surveyor, Chelmsford	do.
Laying and Supplying Water Mains	do.	J. Mansergh, Engineer, 5, Victoria-street, Westminster, S.W.	do.
Street Works	Crewe Town Council	G. E. Shore, Borough Surveyor, Earle-street, Crewe	do.
Chapel, Kingsland, Holyhead	Building Committee	H. Williams, Holyhead	June 11
Cast-iron Pipes, &c.	Yeardsley-cum-Whaley U.D.C.	Sterling & Swann, Engineers, Town Hall, Chapel-en-le-Frith	do.
Gasholder Tank	Stretford Gas Co.	H. Kendrick, Engineer, Gasworks, Stretford, Manchester	do.
*Mortuary, &c.	West Ham Guardians	Clerk Office, Union Workhouse, Leytonstone, S.E.	June 12
Cast-iron Pipes (330 tons)	Preston Corporation	T. Cookson, Civil Engineer, Town Hall, Preston	June 14
Infirmary, &c., Kilton Hill	Worksop Union Guardians	H. C. Scaping, Architect, Court Chambers, Grimsby	June 17
*Making-up Roads	Wimbledon U.D.C.	Council Office, The Broadway, Wimbledon	June 19
*Extensions to County Asylum Buildings	Cornwall County Asylum	See Advertisement	No date
Offices, Dowlais	Messrs. Guest, Keen & Co., Ltd.	E. A. Johnson, Architect, Merthyr	do.
Villa, Bath-road, Worthing		Lund & Potter, Architects, Worthing, Sussex	do.
Additions to Shops, &c.	Suffolk County Council	H. J. Price, Architect, 24, Low-pavement, Nottingham	do.
Granite Road Metal, Sudbury	Tamworth Corporation	A. A. Hunt, County Surveyor, Sudbury	do.
Granite Road Metal (1,000 tons)	Trustees	H. J. Clarson, Borough Engineer, 22, Church-street, Tamworth	do.
Chapel, &c., Rowston, Lincs	Bedford U.S.A.	J. H. Cooper, Architect, Lindum-road, Lincoln	do.
Lodge, Russell Park		J. Lund, Borough Surveyor, Town Hall, Bedford	do.
Villa, Bush Hill Park, Enfield		Hussey & Walcott, 1, Gray's Inn-place, London, W.C.	do.
Chapel, Gnosall, Staffs		Hickton & Farmer, Architects, Walsall	do.
Hospital, &c., Abergavenny		E. A. Johnson, Architect, Abergavenny	do.
Warehouse, London-road, Nottingham		W. D. Pratt, Architect, Cauldon Chmbrs., Longrow, Nottingham	do.

PUBLIC APPOINTMENTS.

Nature of Appointment.	By whom Advertised.	Salary.	Application to be in
*Sanitary Inspector	Holborn Borough Council	130*l.* per annum	June 3
*Manager	Sheffield Corporation		June 5
*County Surveyor	Northampton County Council	350*l.* per annum	June 7

Those marked with an asterisk (*) are advertised in this Number. ***Competitions, p. —*** ***Contracts, pp. iv. vi. viii. x. & xxi.*** ***Public Appointments, pp. xix. & xxi.***

Bethnal Green.—2, Digby-st., f. £310
19, 21, and 27, Ames-st., f. 695
7, Norton-st., f. 290
4 and 67, Moss-st., f. 560
14, Braemar-st., f. 275
Mile End.—42, West-st., f. 190

By CHESTERTON & SONS.

Kensington.—53, Warwick-gdns., u.t. 48 yrs., g.r. 5*l.* 1,000

By DEBENHAM, TEWSON & Co.

Clapham Common.—Thurleigh-rd., Hazlehurst and St. Ronans, area 2 r. 36 p., f., r. 150*l.* 3 050
Thurleigh-rd., St. Bede's and 2 r. 31 p., f. 1,900
Thurleigh-rd., Summerfield, St. Cuthbert's, Lansdowne and Sumburgh House, f., r. 285*l.* 4,695
Thurleigh-rd., Rosedene and 1 r. 5 p., f., r. 80*l.* 1,700
Sudbrooke-rd., a block of building land, 1 a. 0 r. 16 p., f., r. 35*l.* 1,760

By FAREBROTHER, ELLIS, & Co.

City of London.—77 and 77½, Bishopsgate-st. Within, area 3,800 ft., f., r. 1,840*l.* 30,000
9, Union-court and 7, Pea Hen-court, u.t. 47 yrs., g.r. 27*l.*, e.r. 700*l.* £1,300
Peckham.—2 and 4, Barry-rd., f., r. 65*l.* 1,065
Barry-rd., f.g.r. 8 14*l.*, reversion in 91½ yrs. 350
Tyrrell-rd., f.g.r. 21*l.*, reversion in 94 yrs. 400
Tyrrell-rd., f.g.r. 7*l.* 5s., reversion in 93½ yrs. 180

By MAPLE & Co.

Finchley.—Woodside Grange-rd., Hampsterley, f., r. 70*l.* 1,400
Woodside Park-rd., Haslemere, f., e.r. 65*l.* 900

By C. C. & T. MOORE.

Poplar.—13 and 15, Ellesmere-st., f. 570
7 and 9, Market-st., u.t. 38 yrs., g.r. 10*l.* 500
Ilford, Essex.—High-rd., Cricklewood., f., r. 38*l.* 615
139, St. Mary's-rd., f. 320
Canning Town.—38, Fox-st., f. 125
Mile End.—64, Bloomfield-rd., u.t. 67 yrs., g.r. 4*l.* 10s. 370
Victoria Park.—18, Cawley-rd., u.t. 52½ yrs., g.r. 6*l.*, e.r. 45*l.* 465
Forest Gate.—53 to 71 (odd), Chestnut-av., f. 2,360
Hackney.—23 and 24, Regent's-row, u.t. 42 yrs., g.r. 6*l.* £410

By NEWBON, EDWARDS, & SHEPHARD.

Canonbury.—5, St. Paul's-rd., u.t. 45 yrs., g.r. 7*l.*, e.r. 60*l.* 535
Chalk Farm.—108, King Henry's-rd., u.t. 51 yrs., g.r. 15*l.*, r. 73*l.* 590
Hoxton.—25 to 33 (odd), Cavendish-st., u.t. 22½ yrs., g.r. 90*l.* 245
Bayswater.—Pembridge-rd., f.g.r. 10*l.*, reversion in 51 yrs. 300
Tottenham.—1 and 5, Vincent-rd., u.t. 83½ yrs., g.r. 10*l.* 10s. 470
Kentish Town.—12, Leighton-cres., u.t. 39½ yrs., g.r. 10*l.* 10s., r. 48*l.* 365
Camden Town.—24 and 26, St. Paul's-cres., u.t. 49 yrs., g.r. nil, r. 74*l.* 970
Tottenham.—8, 18, 22 to 28 (even), Cranleigh-rd., u.t. 86½ yrs., g.r. 20*l.* 5s. 1,365

By ROGERS, CHAPMAN, & THOMAS.

Pimlico.—47 to 65 (odd), Gillingham-st., u.t. 26 yrs., g.r. 10*l.*, r. 344*l.* 3,290

By STIMSON & SONS.

Peckham.—69, Elm-grove, u.t. 25 yrs., g.r. 3*l.*, e.r. 30*l.* £200
Dulwich.—25 and 27, Ferris-rd., u.t. 75 yrs., g.r. 12*l.* 12s., r. 84*l.* 560
Camberwell.—54 and 56, Linnell-rd., u.t. 75 yrs., g.r. 12*l.*, r. 87*l.* 630
15A, 15B, 15C, Southampton-st., u.t. 90½ yrs., g.r. 10*l.* 550
Bermondsey.—12 to 18, Ernest-st., u.t. 14½ yrs., g.r. 22*l.* 8s. 885
39, 40, and 41, Ernest-st., u.t. 15½ yrs., g.r. 9*l.* 420
Lambeth.—16 and 16A, Little Paris-st., u.t. 22¾ yrs., g.r. 16*l.* 4s. 250
Peckham.—64, Gloucester-rd., u.t. 41½ yrs., g.r. 8*l.*, r. 50*l.* 400
15, Tulfourd-rd., f., e.r. 50*l.* 650

By HENRY HENDRIKS (at Birmingham).

King's Heath, Worcester.—77 to 83 (odd), York-rd., u.t. 97 yrs., g r. 14*l.* 700
Grange-rd., four houses, u.t. 97 yrs., g.r. 14*l.* .. 710
117, Grange-rd., f. 250
22, 23, and 24, Hope-st., u.t. 48 yrs., g.r. 4*l.* 2s. 450

Contractions used in these lists.—F.g.r. for freehold ground-rent; l.g.r. for leasehold ground-rent; i.g.r. for improved ground-rent; g.r. for ground-rent; r. for rent; f. for freehold; c. for copyhold; l. for leasehold; e.r. for estimated rental; u.t. for unexpired term; p.a. for per annum; yrs. for years; st. for street; rd. for road; sq. for square; pl. for place; ter. for terrace; cres. for crescent; yd. for yard.

PRICES CURRENT OF MATERIALS.

*** Our aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

BRICKS, &c.

	£ s. d.		
Hard Stocks	1 14 6	per 1,000	alongside, in river
Rough Stocks and Grizzles	1 11 0	,,	,, ,,
Facing Stocks	2 12 0	,,	,, ,,
Shippers	2 8 0	,,	,, ,,
Flettons	1 9 0	,,	at railway depot.
Red Wire Cuts	1 15 6	,,	,, ,,
Best Fareham Red	3 11 0	,,	,, ,,
Best Red pressed Ruabon Facing	5 5 0	,,	,, ,,
Best Blue Pressed Staffordshire	4 4 6	,,	,,
Do., Bullnose	4 9 0	,,	,, ,,
Best Stourbridge Fire Bricks	4 2 6	,,	,, ,,
GLAZED BRICKS.			
Best White and Ivory Glazed Stretchers	13 0 0	,,	,, ,,
Headers	12 0 0	,,	,, ,,
Quoins, Bullnose, and Flats	17 0 0	,,	,, ,,
Double Stretchers	19 0 0	,,	,, ,,
Double Headers	16 0 0	,,	,, ,,
One Side and two Ends	19 0 0	,,	,, ,,
Two Sides and one End	20 0 0	,,	,, ,,
Splays, Chamfered, Squints	20 0 0	,,	,, ,,
Best Dipped Salt Glazed Stretchers and Headers	12 0 0	,,	,, ,,
Quoins, Bullnose, and Flats	14 0 0	,,	,, ,,
Double Stretchers	15 0 0	,,	,, ,,
Double Headers	14 0 0	,,	,, ,,
One Side and two Ends	15 0 0	,,	,, ,,
Two Sides and one End	15 0 0	,,	,, ,,
plays, Chamfered, Squints	14 0 0	,,	,, ,,
Seconds Quality White and Dipped Salt Glazed	2 0 0	,,	less than best

	s. d.		
Thames and Pit Sand	7 3	per yard,	delivered.
Thames Ballast	6 0	,,	,,
Best Portland Cement	36 6	per ton,	delivered.
Best Ground Blue Lias Lime	25 6	,,	,,

NOTE.—The cement and lime is exclusive of the ordinary charge for sacks.

Grey Stone Lime	13s 6d.	per yard, delivered
Sourbridge Fire-clay in sacks,	28s. od.	per ton at rly. dpt.

STONE.

	s. d.	
Ancaster in blocks	2 0	per ft. cube, deld. rly. depôt.
Bath ,,	1 7	,, ,,
Farleigh Down Bath	1 8	,, ,,
Beer in blocks	1 6½	,, ,,
Grinshill ,,	1 10	,, ,,
Brown Portland in blocks	2 2	,, ,,
Darley Dale in blocks	2 1½	,, ,,
Red Corsehill ,,	2 5	,, ,,
Red Mansfield ,,	2 4½	,, ,,
Hard York in blocks	2 10	,, ,,
Hard York 6 in. sawn both sides landings, to sizes (under 40 ft. sup.)	2 8	per ft. super. at rly. depôt
,, ,, 6 in. Rubbed Ditto	3 0	,, ,,
,, ,, 3 in. sawn both sides slabs (random sizes)	1 3	,, ,,
,, ,, 3 in. self-faced Ditto	0 9½	,, ,,

SLATES.

in. in.	£ s. d.		
20X10 best blue Bangor	11 5 0	per 1000 of 1200	at ry. dep.
16X 8 best seconds ,,	10 15 0	,,	,,
16X 8 best ,,	6 2 6	,,	,,
20X10 best blue Portmadoc	10 18 0	,,	,,
16X 8 best blue Portmadoc	6 0 0	,,	,,
20X10 best Eureka unfading green	11 2 6	,,	,,
16X 8 ,, ,,	6 15 0	,,	,,
20X10 Permanent green	10 0 0	,,	,,
16X 8 ,, ,,	5 12 6	,,	,,

PRICES CURRENT (*Continued*).

TILES.

	s. d.		
Best plain red roofing tiles	41 6	per 1,000	at rly. depôt.
Hip and valley tiles	3 7	per doz.	,, ,,
Best Broseley tiles	48 6	per 1,000	,, ,,
Hip and valley tiles	4 0	per doz.	,, ,,
Best Ruabon Red, brown or brindled Do. (Edwards)	57 6	per 1,000	,, ,,
Do. ornamental Do.	60 0	,,	,, ,,
Hip tiles	4 0	per doz.	,, ,,
Valley tiles	3 9	,,	,, ,,
Best Red or Mottled Staffordshire Do. (Peakes)	50 9	per 1,000	,, ,,
Hip tiles	4 1	per doz.	,, ,,
Valley tiles	3 8	,,	,, ,,

WOOD.

BUILDING WOOD.—YELLOW.

	£ s. d.	£ s. d.	
	At per standard.		
Deals: best 3 in. by 11 in. and 4 in. by 9 in. and 11 in.	16 10 0	18 0 0	
Deals: best 3 by 9	14 10 0	15 10 0	
Battens: best 2½ in. by 7 in. and 8 in. and 3 in. by 7 in. and 8 in.	12 0 0	13 0 0	
Battens: best 2½ by 6 and 3 by 6	0 10 0	less than 7 in. and 8 in.	
Deals: seconds	1 0 0	less than best	
Battens: seconds	0 10 0	,, ,, ,,	
2 in. by 4 in. and 2 in. by 6 in.	9 10 0	11 0 0	
2 in. by 4½ in. and 2 in. by 5 in.	9 0 0	10 10 0	
Foreign Sawn Boards—			
1 in. by 1½ in. by 1½ in.	10 0	more than battens.	
¾ in.	1 0 0	more than battens.	
	At per load of 50 ft.		
Fir timber: Best middling Danzig or Memel (average specification)	4 10 0	5 0 0	
Seconds	4 5 0	4 10 0	
Small timber (8 in. to 10 in.)	3 12 6	3 15 0	
Swedish balks	2 15 0	3 0 0	
Pitch pine timber (35 ft. average)	3 10 0	4 0 0	
JOINERS' WOOD.	At per standard.		
White Sea: First yellow deals, 3 in. by 11 in.	27 10 0	28 10 0	
3 in. by 9 in.	24 0 0	25 0 0	
Battens, 2½ in. and 3 in. by 7 in.	20 0 0	21 0 0	
Second yellow deals, 3 in. by 11 in.	22 10 0	24 0 0	
,, ,, 3 in. by 9 in.	20 0 0	21 0 0	
Battens, 2½ in. and 3 in. by 7 in.	16 10 0	18 0 0	
Third yellow deals, 3 in. by 11 in. and 9 in.	16 10 0	18 0 0	
Battens, 2½ in. and 3 in. by 7 in.	13 10 0	14 10 0	
Petersburg: first yellow deals, 3 in. by 11 in.	25 0 0	26 0 0	
Do. 3 in. by 9 in.	22 0 0	23 0 0	
Battens	16 10 0	17 10 0	
Second yellow deals, 3 in. by 11 in.	18 10 0	20 0 0	
Do. 3 in. by 9 in.	17 0 0	18 0 0	
Battens	14 0 0	14 10 0	
Third yellow deals, 3 in. by 11 in.	15 0 0	16 10 0	
Do. 3 in. by 9 in.	14 0 0	14 10 0	
Battens	12 10 0	13 10 0	
White Sea and Petersburg:—			
First white deals, 3 in. by 11 in.	15 10 0	16 10 0	
,, ,, ,, 3 in. by 9 in.	14 10 0	15 10 0	
Battens	12 10 0	13 10 0	
Second white deals 3 in. by 11 in.	14 0 0	15 0 0	
,, ,, ,, 3 in. by 9 in.	13 0 0	14 0 0	
,, ,, battens	11 0 0	12 0 0	
Pitch pine: deals	16 0 0	18 0 0	
Under 2 in. thick extra	0 10 0	1 0 0	
Yellow Pine—			
First, regular sizes	30 0 0	33 0 0	
Broads (12 in. and up)	2 0 0	more.	
Oddments	22 0 0	24 0 0	
Seconds, regular sizes	24 10 0	26 10 0	
Yellow Pine Oddments	20 0 0	22 0 0	
Kauri Pine—			
Planks, per ft. cube	0 3 6	0 4 6	
Danzig and Stettin Oak Logs—			
Large, per ft. cube	0 2 6	0 3 0	
Small ,, ,,	0 2 3	0 2 6	
Wainscot Oak Logs, per ft. cube	0 5 0	0 5 6	
Dry Wainscot Oak, per ft. sup. as inch	0 0 8	0 0 7	
in. do. do.	0 0 7	- - -	
Dry Mahogany—			
Honduras, Tabasco, per ft. sup. as inch	0 0 9	0 0 11	
Selected, Figury, per ft. sup. as inch	0 1 6	0 2 0	
Dry Walnut, American, per ft. sup. as inch	0 0 10	0 1 0	
Teak, per load	16 0 0	20 0 0	
American Whitewood Planks—			
Per ft. cube	0 2 3	0 3 0	

Prepared Flooring—

	Per square.	
1 in. by 6 in. and 7 in. yellow, planed and shot	0 13 0	0 16 6
1 in. by 6 in. and 7 in. yellow, planed and matched	0 13 6	0 17 6
1¼ in. by 6 in. and 7 in. yellow, planed and matched	0 16 0	1 1 0
1 in. by 6 in. and 7 in. white, planed and shot	0 11 0	0 13 0
1 in. by 6 in. and 7 in. white, planed and matched	0 11 6	0 13 6
1¼ in. by 6 in. and 7 in. white, planed and matched	0 14 0	0 16 6

JOISTS, GIRDERS, &c.

	In London, or delivered to Railway Vans, per ton. £ s. d.	£ s. d.
Rolled Steel Joists, ordinary sections	7 15 0	8 15 0
Compound Girders ,, ,,	9 10 0	10 15 0
Angles, Tees and Channels, ordinary sections	9 7 6	11 7 6
Flitch Plates	9 15 0	10 10 0
Cast Iron Columns and Stanchions, including ordinary patterns	8 5 0	10 0 0

PRICES CURRENT (*Continued*).

METALS.

	Per ton, in London. £ s. d.	£ s. d.
IRON.—		
Common Bars	8 10 0	9 0 0
Staffordshire Crown Bars, good merchant quality	9 0 0	9 10 0
Staffordshire "Marked Bars"	11 10 0	- - -
Mild Steel Bars	9 0 0	10 0 0
Hoop Iron, basis price	9 10 0	10 0 0
,, ,, galvanised	16 0 0	- - -
(* And upwards, according to size and gauge.)		
Sheet Iron, Black.—		
Ordinary sizes to 20 g.	10 5 0	- - -
,, ,, to 24 g.	11 10 0	- - -
,, ,, to 26 g.	12 15 0	- - -
Sheet Iron, Galvanised, flat, ordinary quality.—		
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 20 g.	12 15 0	- - -
,, ,, 22 g. and 24 g.	13 5 0	- - -
,, ,, 26 g.	14 10 0	- - -
Sheet Iron, galvanised, flat, best quality.—		
Ordinary sizes to 20 g.	16 10 0	- - -
,, ,, 22 g. and 24 g.	17 0 0	- - -
,, ,, 26 g.	18 10 0	- - -
Galvanised Corrugated Sheets.—		
Ordinary sizes, 6 ft. to 8 ft. 20 g.	12 15 0	- - -
,, ,, 22 g. and 24 g.	13 5 0	- - -
,, ,, 26 g.	14 0 0	- - -
Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. by 20 g. and thicker	12 10 0	- - -
,, ,, 22 g. and 24 g.	13 10 0	- - -
,, ,, 26 g.	14 10 0	- - -
Cut nails, 3 in. to 6 in. (Under 3 in. usual trade extras.)	10 10 0	- - -
LEAD—Sheet, English, 3 lbs. & up.	15 5 0	- - -
Pipe in coils	15 15 0	- - -
Soil Pipe	18 5 0	- - -
ZINC—Sheet—		
Vieille Montagne ton	24 0 0	- - -
Silesian	23 10 0	- - -
COPPER—		
Strong Sheet per lb.	0 1 0½	- - -
Thin ,,	0 1 2	- - -
Copper nails ,,	0 1 2	- - -
BRASS—		
Strong Sheet ,,	0 0 11	- - -
Thin ,, ,,	0 1 1	- - -
TIN—English Ingots ,,	0 1 4	- - -
SOLDER—Plumbers' ,,	0 0 7	- - -
Tinmen's ,,	0 0 8	- - -
Blowpipe ,,	0 0 9	- - -

ENGLISH SHEET GLASS IN CRATES.

15 oz. thirds	3d.	per ft.	delivered.
,, fourths	2¾d.	,,	,,
21 oz. thirds	3¾d.	,,	,,
,, ,, fourths	3¼d.	,,	,,
26 oz. thirds	5d.	,,	,,
,, ,, fourths	4½d.	,,	,,
32 oz. thirds	6d.	,,	,,
,, ,, fourths	5½d.	,,	,,
Fluted sheet, 15 oz.	3½d.	,,	,,
,, ,, 21 ,,	4½d.	,,	,,
½ Hartley's Rolled Plate	3d.	,,	,,
⅓ ,, ,, ,,	3½d.	,,	,,
¼ ,, ,, ,,	4d.	,,	,,

OILS, &c.

		£ s. d.
Raw Linseed Oil in pipes	per gallon	0 3 0
,, ,, ,, in barrels	,,	0 3 1
,, ,, ,, in drums	,,	0 3 3
Boiled ,, ,, in pipes	,,	0 3 2
,, ,, ,, in barrels	,,	0 3 3
,, ,, ,, in drums	,,	0 3 5
Turpentine, in barrels	,,	0 2 5
,, in drums	,,	0 2 7
Genuine Ground English White Lead	per ton	23 10 0
Red Lead, Dry	,,	24 0 0
Best Linseed Oil Putty	per cwt.	0 9 0
Stockholm Tar	per barrel	1 10 0

VARNISHES, &c.

	per gallon £ s. d
Fine Elastic Copal Varnish for outside work	0 16 6
Best Elastic Copal Varnish for outside work	1 0 0
Best Elastic Carriage Varnish for outside work	0 16 6
Best Hard Oak Varnish for inside work	0 10 6
Best Extra Hard Church Oak Varnish for inside work	0 10 6
Fine Hard Copal Varnish for inside work	0 16 0
Best Hard Copal Varnish for inside work	1 0 0
Best Hard Carriage Varnish for inside work	0 16 0
Extra Pale Paper Varnish	0 12 0
Best Japan Gold Size	0 10 0
Best Black Japan	0 16 0
Oak and Mahogany Stain	0 9 0
Brunswick Black	0 9 0
Berlin Black	0 15 0
Knotting	0 10 0
Best French and Brush Polish	0 10 0

TO CORRESPONDENTS.

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TENDERS.

[Communications for insertion under this heading should be addressed to "The Editor," and must reach us *not later than 10 a.m. on Thursdays.* N.B.—We cannot publish tenders unless authenticated either by the architect or the building-owner; and we cannot publish announcements of tenders accepted unless the amount of the tender is given, nor any list in which the lowest tender is under £100, unless in some exceptional cases and for special reasons.]

* Denotes *accepted.* † Denotes *provisionally accepted.*

BURY (Lancs.). — For the erection of two shops, Stanley-street, for the executors of the late Mr. T. T. Newbold. Messrs. Openshaw & Gill, architects, Derby Chambers, Fleet-street, Bury. Quantities by Mr. Wm. E. Gill :—

John Tinline	£1,630	James Byrom	£1,300
Thompson & Brierley	1,560	Robt. Hall	1,300
Hutchinson & Holt	1,355	S. Clough. School Brow, Bury*	1,285
John Hall	1,353		
John Inman	1,353		

CARSHALTON. — For decorations at the Sun Inn. Messrs. Chart, Son, & Reading, architects, Croydon :—

Smith & Son	£140	Burnand, Wallington*	£110

CATERHAM.—For decorations at the Asylum Tavern. Messrs. Chart, Son, & Reading, architects, Croydon :—

Cheeseman	£265 10	Bacon	£237 7
Card	246 0	Burnand, Wallington*	219 10
Vaughan	242 0		

CHELSHAM.—For rebuilding the Bull Inn, Chelsham Common. Messrs. Chart, Son, & Reading, architects, Croydon :—

Worsfold & Son	£1,700	Bacon	£1,239
Cheeseman	1,300	Goulder	1,225
Truett & Steel	1,293	Burnand	1,198
Knight	1,289	Smith & Son, Croydon*	1,148
Quittenton	1,280		

CLAY CROSS (Derbyshire).—For the erection of a mission hall for the Methodist New Connexion. Mr. Ernest Oxley, architect, Clay Cross. Quantities by architect :—

Robert Peck	£600 0	John Madin	£542 16 4
William Forrest	593 16 6	Eustace Tinkler, Clay Cross*	516 7 0
George Hoyes	557 9 0		
Freak Lee	549 10 0		

KENLEY.—For the erection of a billiard-room at Hillside, for Mr. Geo. Turner. Messrs. Chart, Son, & Reading, architects, Reading :—

Stewart & Sons	£798	Cheeseman	£738
Goulder	790	Burnand	712
Quittenton	785	Horrocks	690
J. & J. Ward	777	Smith & Son	678
Waller	749	Bacon, Thornton Heath*	674
Battley, Son, & Holmes	747		

LONDON.—For the erection of New Brabazon House, Moreton-street, Pimlico, for the Brabazon House Company, Limited. Mr. R. Stephen Ayling, architect, 19, Old Queen-street, Westminster, S.W. :—

		Extra for Glazed Brick.
Patman & Fotheringham	£12,830	£145
Rider & Son	12,551	110
Messom & Sons	12,333	130
Mowlem & Co.	12,179	154
Patrick & Son	12,178	100
Higgs & Hill	11,984	118
Perry & Co.	11,968	124
Martin, Wells, & Co.	11,955	117
George Gray	11,877	107
Holloway Bros.	11,785	138
Alfred Bush	11,672	105
Gregory & Co.	11,555	125
Kilby & Gayford	11,430	111
Gough & Co.*	11,254	130

LONDON.—For the construction of an underground convenience, Artichoke-place, Church-street, Camberwell, for the Camberwell Borough Council. Mr. W. Oxtoby, Engineer, Town Hall, Peckham-road, S.E. :—

W. Shurmur	£1,089	Foster Bros.	£907
Doulton & Co.	1,058	W. Smith	889
Finch & Co.	997	G. H. Jennings*	750

MITCHAM.—For alterations and repairs at the Ship beerhouse. Messrs. Chart, Son, & Reading, architects, Croydon :—

Smith & Son	£1,088	Burnand	£918
Haydon	929	Burges & Sons	865
Sayers	921	Bacon, Thornton Heath	853

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LONDON SCHOOL BOARD TENDERS.

At the last meeting of the London School Board, the Works Committee submitted the following lists of tenders :—

CHURCH-STREET.—Exterior painting :—

F. Bull	£235	W. Shurmur	£163
Silk & Son	180	Collis Willmott	149
Barrett & Power	177	G. Barker*	147
C. & W. Hunnings	173	W. Hornett	128

RAYWOOD-STREET.—Exterior painting :—

Williams & Sons	£150 0	Maxwell Bros., Ltd.	£127 10
E. B. Tucker	144 10	Holloway Bros.	125 0
E. Flood	140 0	E. Triggs	109 0
Lathey Bros.	140 0	Lorden & Son*	99 15
C. Curd	139 0		

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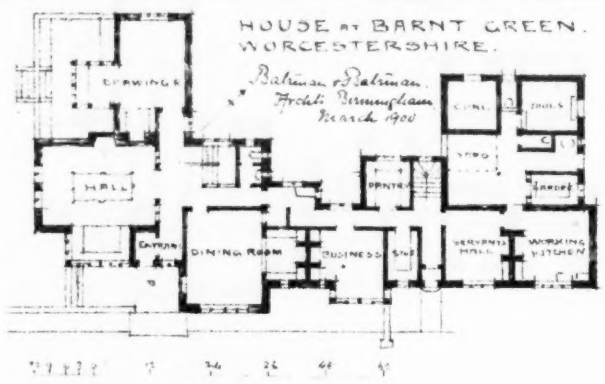

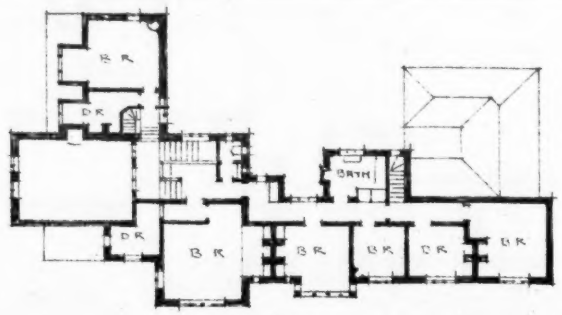

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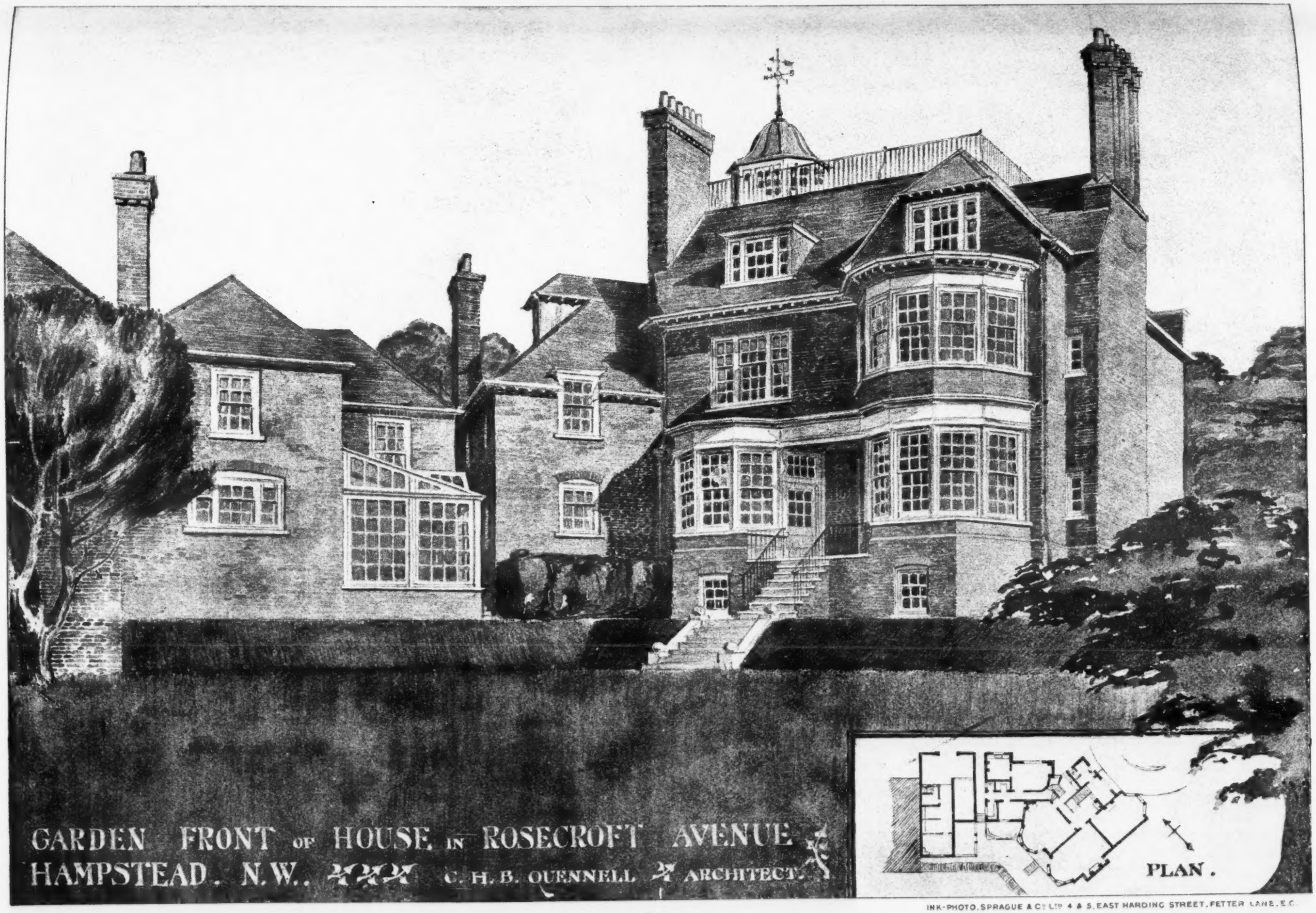

GARDEN FRONT OF HOUSE IN ROSECROFT AVENUE HAMPSTEAD. N.W. C. H. B. QUENNELL ARCHITECT.

PLAN.

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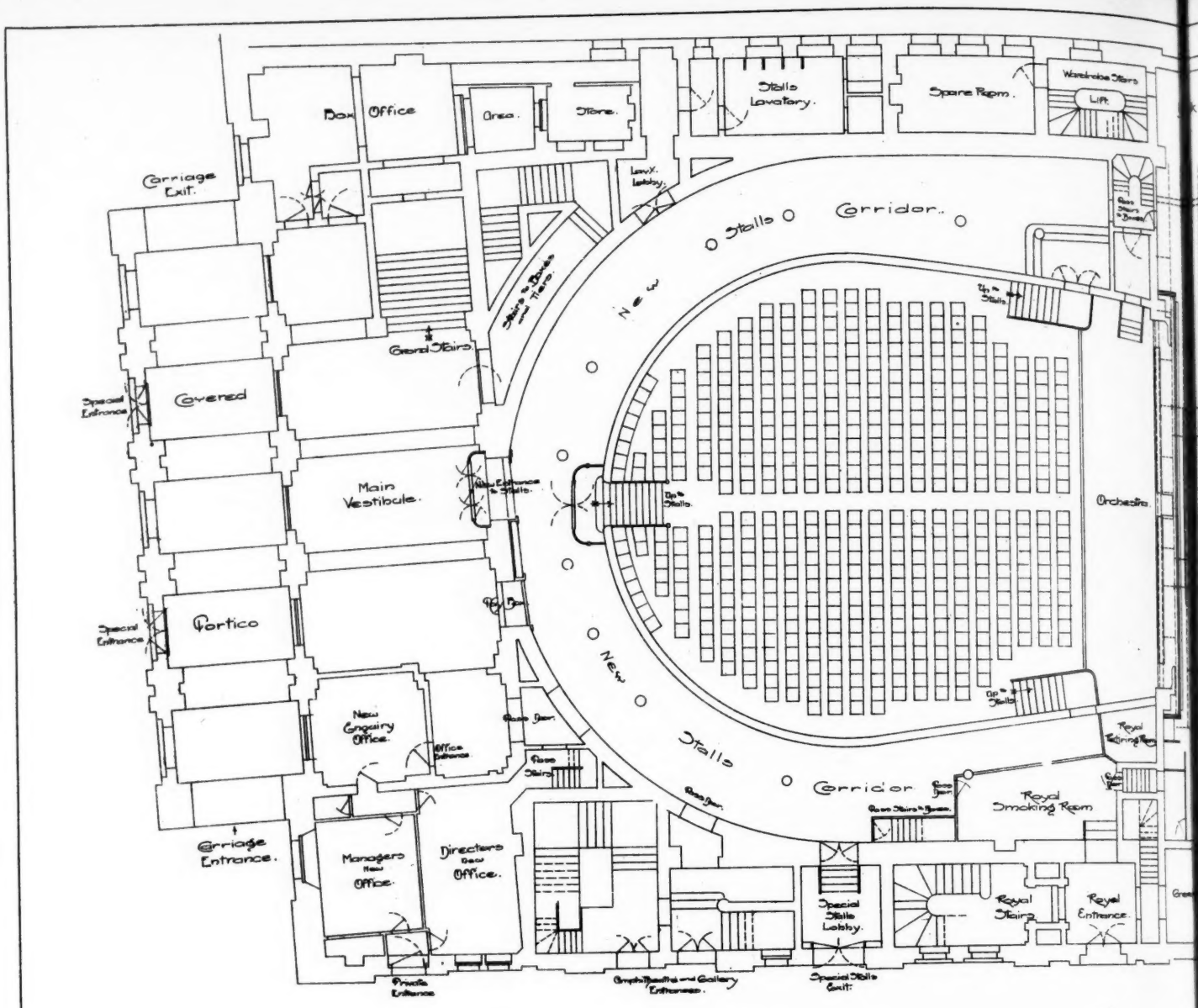
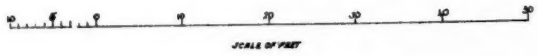
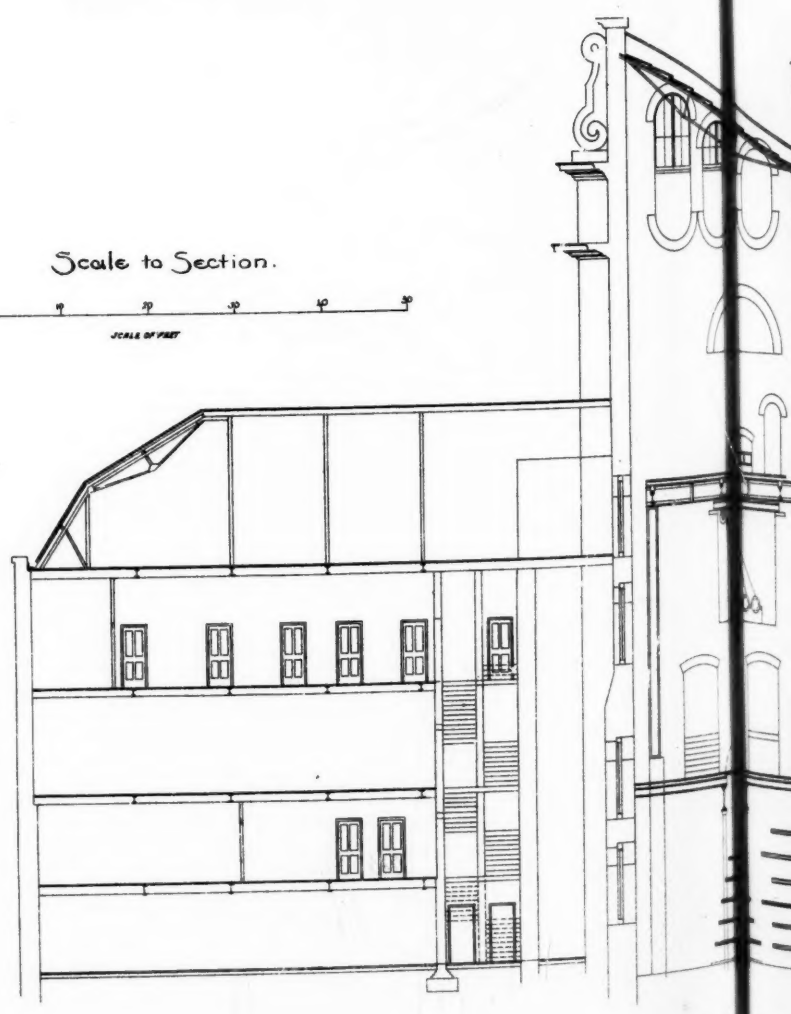


Scale to Section.





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Plan of New Stalls Corridor Level.

10 5 0 10 20 30 40.

Scale of Feet.

Alterations 1899-1901.
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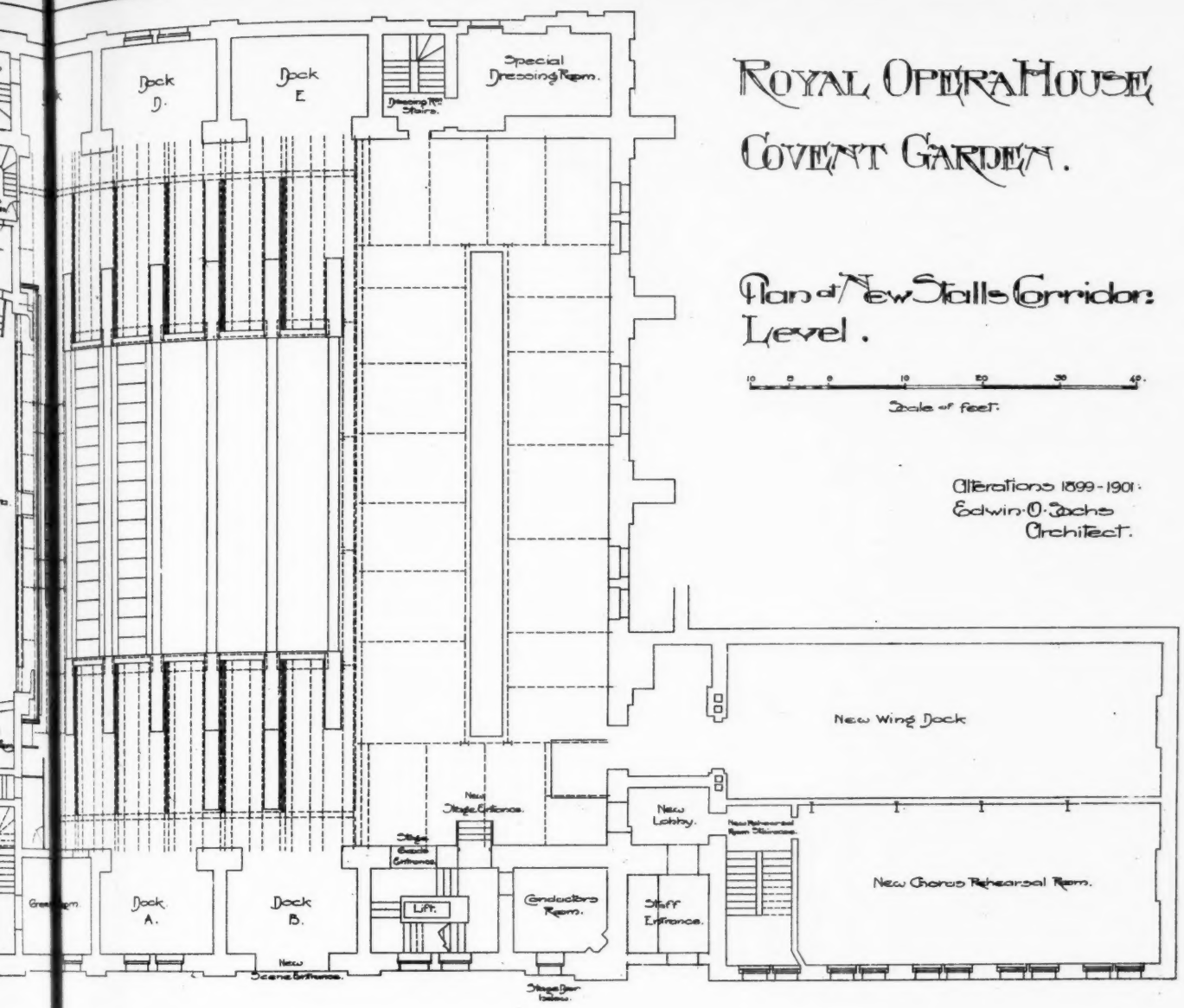

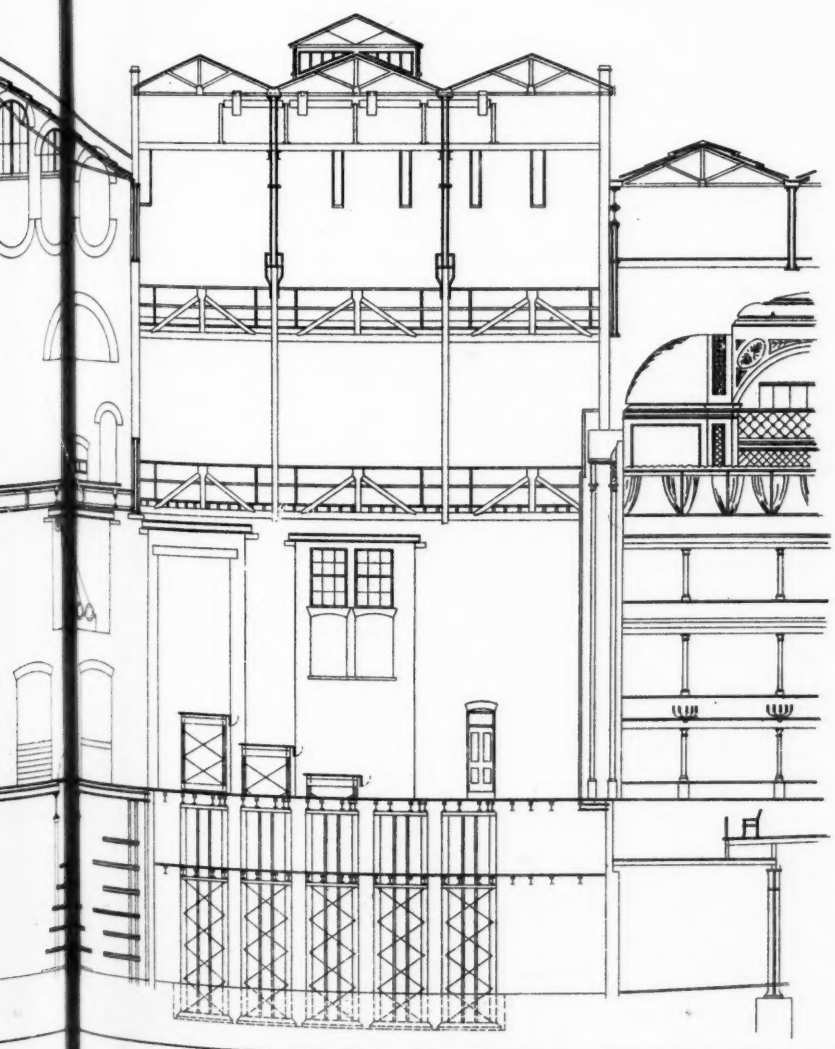

Section through Stage Portion.

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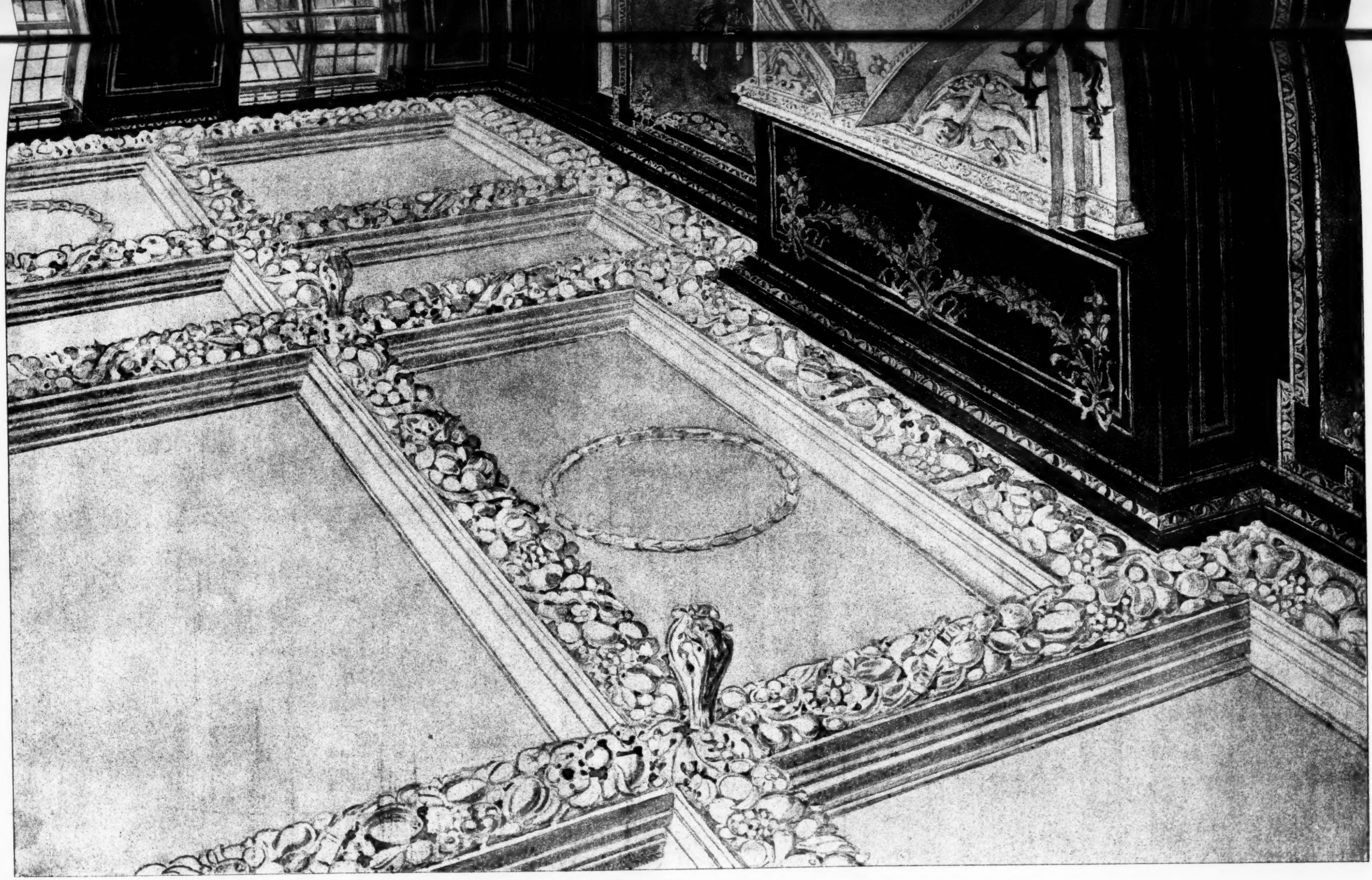

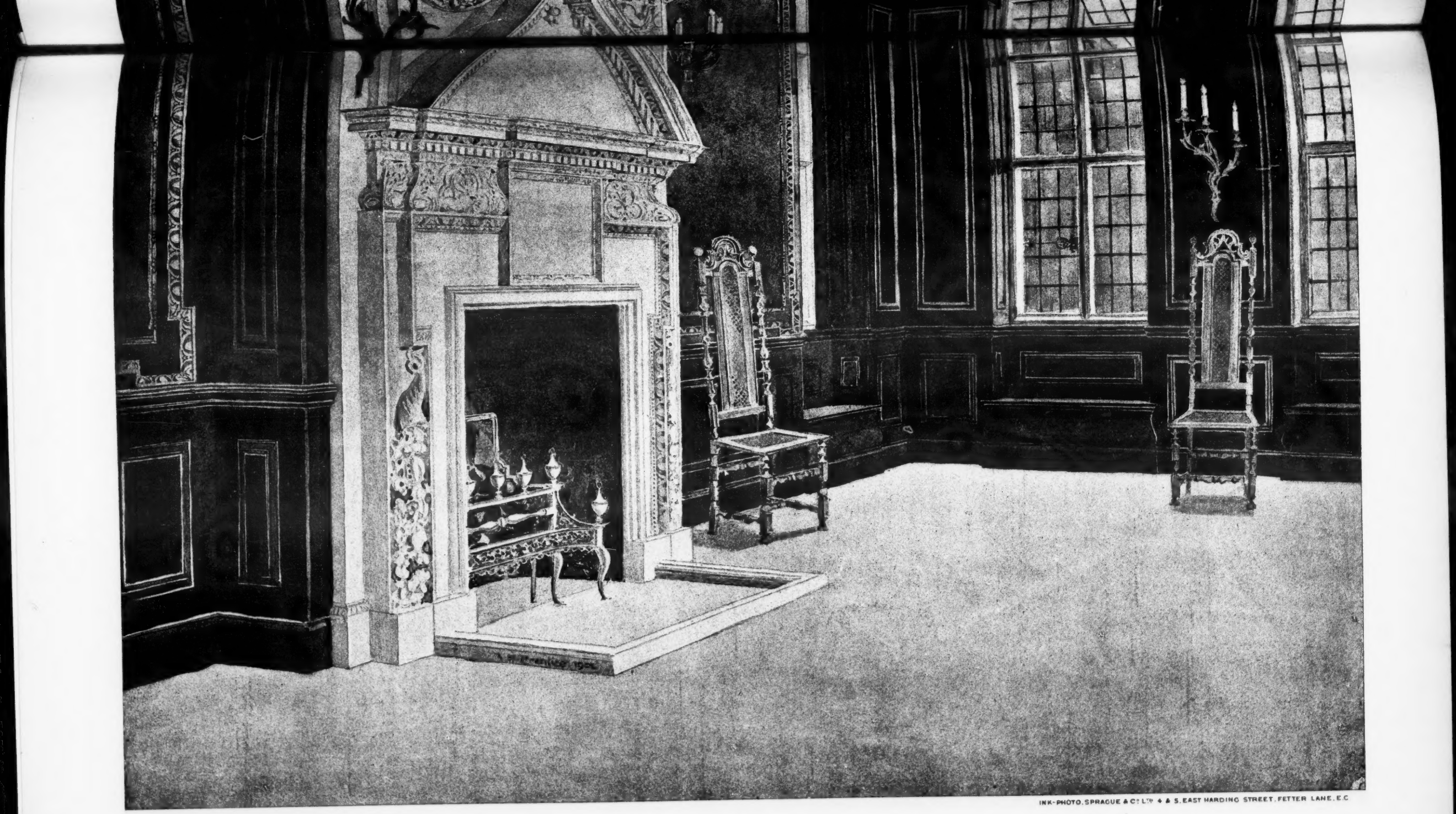

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